```
=> d his ful

     (FILE 'HOME' ENTERED AT 09:27:07 ON 21 SEP 2005)

     FILE 'HCAPLUS' ENTERED AT 09:27:13 ON 21 SEP 2005
                E US2004-825118/APPS
L1            1 SEA ABB=ON  PLU=ON  US2004-825118/AP
                SEL RN

     FILE 'REGISTRY' ENTERED AT 09:27:34 ON 21 SEP 2005
L2           11 SEA ABB=ON  PLU=ON  (1013-20-3/BI OR 120457-86-5/BI OR
                135-20-6/BI OR 209982-56-9/BI OR 2226-96-2/BI OR 614-00-6/BI
                OR 700-58-3/BI OR 74-96-4/BI OR 7439-93-2/BI OR 80-62-6/BI OR
                86-30-6/BI)
                D SCA

     FILE 'HCAPLUS' ENTERED AT 09:34:09 ON 21 SEP 2005
L3            1 SEA ABB=ON  PLU=ON  L1 AND L2
                D IALL HITSTR

     FILE 'REGISTRY' ENTERED AT 09:36:14 ON 21 SEP 2005
L4              STR  209982-56-9
L5           50 SEA SSS SAM L4
L6         1850 SEA SSS FUL L4

     FILE 'HCAPLUS' ENTERED AT 09:45:09 ON 21 SEP 2005
L7          762 SEA ABB=ON  PLU=ON  L6(L)PREP+ALL/RL

     FILE 'REGISTRY' ENTERED AT 09:50:25 ON 21 SEP 2005
L8              STR ADAMAN
L9           12 SEA SSS SAM L8
L10             STR L8
L11           0 SEA SSS SAM L10
L12          92 SEA SSS FUL L10

     FILE 'HCAPLUS' ENTERED AT 09:56:56 ON 21 SEP 2005
L13         965 SEA ABB=ON  PLU=ON  L12(L)RACT+ALL/RL
L14          55 SEA ABB=ON  PLU=ON  L13 AND L7

     FILE 'REGISTRY' ENTERED AT 09:57:38 ON 21 SEP 2005
L15      105396 SEA ABB=ON  PLU=ON  LI/ELS

     FILE 'HCAPLUS' ENTERED AT 09:58:26 ON 21 SEP 2005
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L17          23 SEA ABB=ON  PLU=ON  L16 AND L14
L18           1 SEA ABB=ON  PLU=ON  L1 AND L17

     FILE 'CASREACT' ENTERED AT 10:01:46 ON 21 SEP 2005
L19             STR L10
L20           0 SEA SSS SAM L19 (     0 REACTIONS)
L21             STR L19
L22           0 SEA SSS SAM L21 (     0 REACTIONS)
L23           1 SEA SSS FUL L21 (     1 REACTIONS)
                D SCA
L*** DEL        STR L21
L24             STR L21
L25           0 SEA SSS SAM L24 (     0 REACTIONS)
L26          83 SEA SSS FUL L24 (   290 REACTIONS)
L27             STR L24
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L28             0 SEA SSS SAM L27 (      0 REACTIONS)
L29             0 SEA SSS FUL L27 (      0 REACTIONS)
L30               STR L27
L31             0 SEA SSS SAM L30 (      0 REACTIONS)
L32             9 SEA SSS FUL L30 (     20 REACTIONS)
L33             8 SEA ABB=ON  PLU=ON  L32 AND L26
L34             9 SEA ABB=ON  PLU=ON  L33 OR L32
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FILE HOME

FILE HCAPLUS

FILE COVERS 1907 - 21 Sep 2005 VOL 143 ISS 13
FILE LAST UPDATED: 20 Sep 2005 (20050920/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 19 SEP 2005 HIGHEST RN 863478-08-4
DICTIONARY FILE UPDATES: 19 SEP 2005 HIGHEST RN 863478-08-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

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**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from  *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005.  A new display format, IDERL, is now     *
* available and contains the CA role and document type information.  *
*                                                                    *
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Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer

to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

FILE CASREACT

FILE CONTENT:1840 - 18 Sep 2005 VOL 143 ISS 12

New CAS Information Use Policies, enter HELP USAGETERMS for details.

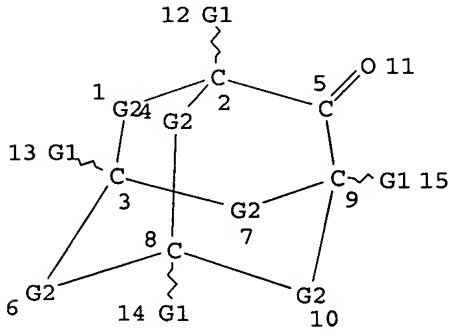
****
*
* CASREACT now has more than 9.2 million reactions *
*
****

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

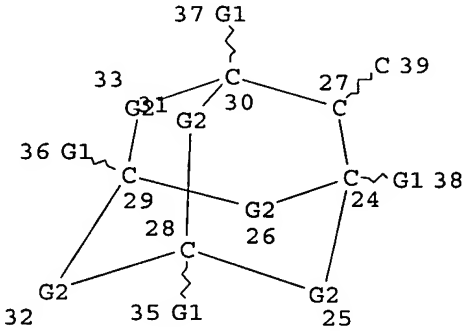
=> d que stat l34
L24 STR

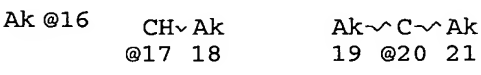
RRT



RRT

PRO



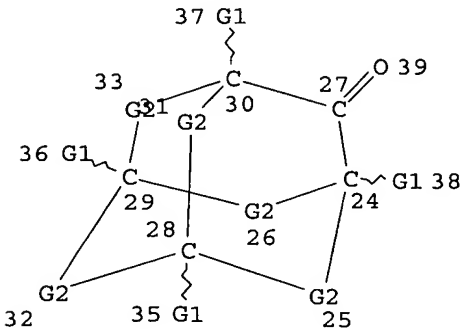


VAR G1=H/16
VAR G2=CH2/17/20
NODE ATTRIBUTES:
NSPEC IS RC AT 22
NSPEC IS RC AT 39
CONNECT IS E1 RC AT 16
CONNECT IS E1 RC AT 18
CONNECT IS E1 RC AT 19
CONNECT IS E1 RC AT 21
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 38

STEREO ATTRIBUTES: NONE
L26 83 SEA FILE=CASREACT SSS FUL L24 (290 REACTIONS)
L30 STR

RRT



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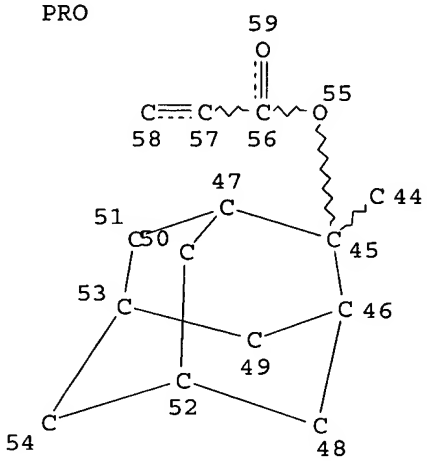


Ak @16

CH Ak
@17 18

Ak C Ak
19 @20 21

VAR G1=H/16
VAR G2=CH2/17/20
NODE ATTRIBUTES:
NSPEC IS RC AT 44
CONNECT IS E1 RC AT 16
CONNECT IS E1 RC AT 18
CONNECT IS E1 RC AT 19
CONNECT IS E1 RC AT 21
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 37

STEREO ATTRIBUTES: NONE
L32 9 SEA FILE=CASREACT SSS FUL L30 (20 REACTIONS)
L33 8 SEA FILE=CASREACT ABB=ON PLU=ON L32 AND L26
L34 9 SEA FILE=CASREACT ABB=ON PLU=ON L33 OR L32

=> d l34 ibib abs crd 1-9

L34 ANSWER 1 OF 9 CASREACT COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 139:68982 CASREACT
TITLE: Preparation of adamantanols and alkyladamantyl esters
INVENTOR(S): Tanaka, Kenji; Yamaguchi, Sadao

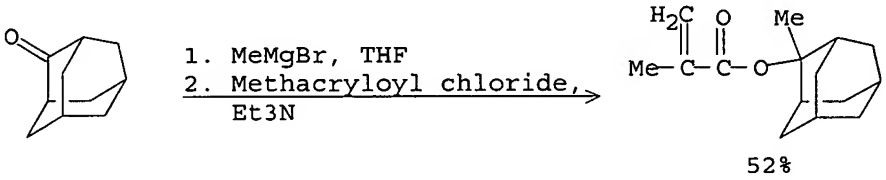
PATENT ASSIGNEE(S): Tokuyama Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003183204	A2	20030703	JP 2001-390041	20011221

PRIORITY APPLN. INFO.: JP 2001-390041 20011221
OTHER SOURCE(S): MARPAT 139:68982

AB Adamantanols are prepared by reaction of adamantanes with concentrated H2SO4, carbocation-forming compds., and organic nitriles and mixing with H2O at 20-90°. 1-Adamantanol thus prepared is oxidized, alkylated by organometallic reagents, and esterified by acid halides or acid anhydrides to give alkyladamantyl esters. Adamantane was treated with H2SO4, MeCN, and tert-Bu alc. at room temperature for 12 h to give 97% 1-adamantanol, which was converted into 2-methyl-2-adamantyl methacrylate in 2 steps.

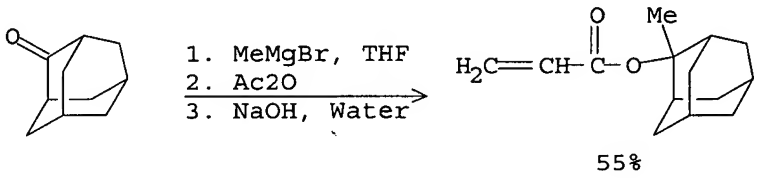
RX(6) OF 19



52%

CON: STAGE(1) <40 deg C
STAGE(2) 3 hours, 50 deg C

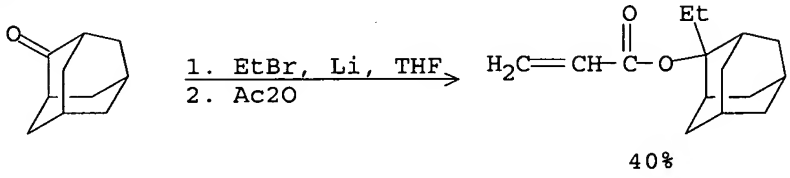
RX(8) OF 19



55%

CON: STAGE(1) <40 deg C
STAGE(2) 4 hours, room temperature
STAGE(3) 1 hour, <10 deg C

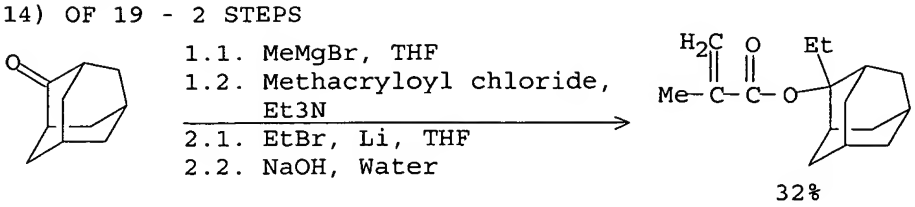
RX(9) OF 19



40%

CON: STAGE(1) <30 deg C
STAGE(2) 1 hour, room temperature

RX(14) OF 19 - 2 STEPS



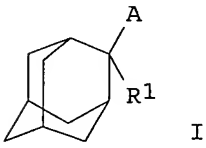
32%

CON: STEP(1.1) <40 deg C
STEP(1.2) 3 hours, 50 deg C
STEP(2.1) <30 deg C
STEP(2.2) 1 hour, room temperature

L34 ANSWER 2 OF 9 CASREACT COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 137:78720 CASREACT
TITLE: Preparation of 2-alkyl-2-adamantyl (meth)acrylates from 2-adamantanones
INVENTOR(S): Kobayashi, Kenji; Wasaki, Takahiro
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002193883	A2	20020710	JP 2000-389631	20001221

PRIORITY APPLN. INFO.: JP 2000-389631 20001221
OTHER SOURCE(S): MARPAT 137:78720
GI

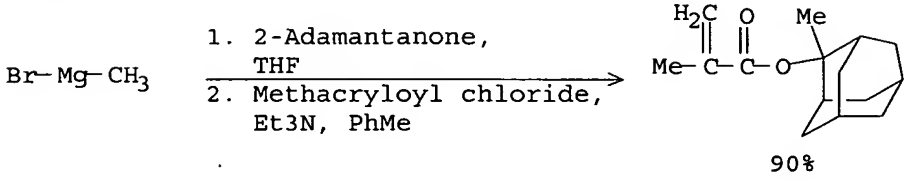


I

AB The (meth)acrylates I (R1 = alkyl; A = OCOCR2:CH2; R2 = H, Me) (II) are prepared by treating (un)substituted 2-adamantanones with R1M (R1 = same as above; M = metal which may have ligand) or organic compds. having MgY (Y = halo) and treating the resulting adamantanols I (R1 = same as above; A = OH) (III), without isolation, with (meth)acrylic halides. THF solution of MeMgBr was added dropwise to a mixture of THF and 2-adamantanone at ≤50° over 1 h and the reaction mixture was stirred at 60° for 1 h. The reaction mixture was cooled, added dropwise to H2SO4 at ≤10° over 1 h, and the mixture was neutralized with NaOH and concentrated The concentrate was extracted with toluene and the toluene layer was concentrated to give slurry of III (R1 = Me). CH2:CMeCOCl was added dropwise to a mixture of the slurry and Et3N at ≤30° over 2 h

and the mixture was stirred at 50° for 10 h to give 90% II (R1 = R2 = Me).

RX(1) OF 1

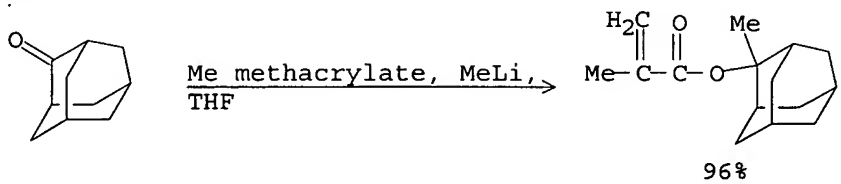


L34 ANSWER 3 OF 9 CASREACT COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 137:33092 CASREACT
TITLE: Production of (un)subsitiuted 2-hydrocarbyl-2-adamantyl (meth)acrylate compounds via the reaction of organometallic compounds with 2-adamantones and with acrylic acid esters and anhydrides
INVENTOR(S): Kakuda, Minoru; Arai, Yoshihisa; Furukawa, Kikuo; Isobe, Takehiko
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Company, Inc., Japan
SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1215193	A2	20020619	EP 2001-129170	20011208
EP 1215193	A3	20030910		
EP 1215193	B1	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002077499	A1	20020620	US 2001-3276	20011206
US 6521781	B2	20030218		
JP 2002241342	A2	20020828	JP 2001-380135	20011213
PRIORITY APPLN. INFO.:			JP 2000-382461	20001215

OTHER SOURCE(S): MARPAT 137:33092
AB 2-Hydrocarbyl-2-adamantyl acrylates (e.g., 2-methyl-2-adamantyl methacrylate) compds. are prepared in high yield and selectivity by reacting a(n) (un)subsitiuted 2-adamantanone (e.g., 2-adamantanone) with at least one organometallic compound (e.g., methyllithium) in the presence of an acrylate ester or anhydride derivative

RX(1) OF 1

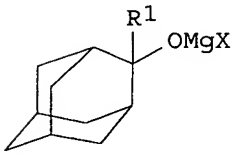


L34 ANSWER 4 OF 9 CASREACT COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 136:150954 CASREACT
TITLE: Processes for preparation of 2-alkyl-2-adamantyl esters
INVENTOR(S): Yamaguchi, Masao; Hirota, Yoshihiro; Yamamoto, Hiromasa
PATENT ASSIGNEE(S): Tokuyama Corporation, Japan
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002010112	A1	20020207	WO 2001-JP6208	20010718
W: CN, IN, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2002053522	A2	20020219	JP 2000-242158	20000810
JP 2002105022	A2	20020410	JP 2000-390533	20001222
EP 1314713	A1	20030528	EP 2001-984413	20010718
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 2003158437	A1	20030821	US 2003-333733	20030127

PRIORITY APPLN. INFO.: JP 2000-227158 20000727
JP 2000-242158 20000810
JP 2000-390533 20001222
WO 2001-JP6208 20010718

OTHER SOURCE(S): MARPAT 136:150954
GI

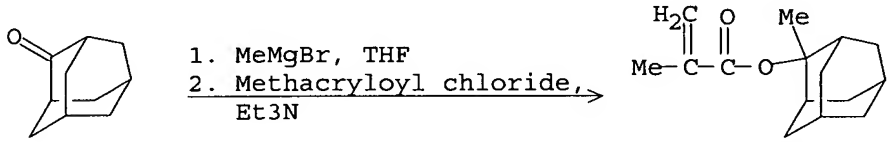


I

AB A process for preparation of 2-alkyl-2-adamantyl esters comprises reacting a magnesium halide salt of a 2-alkyl-2-adamantanol (I; R1 = C1-6 alkyl; X = halo) with an acyl halide such as acryloyl chloride in the presence of a tertiary amine. An another process for preparation of 2-alkyl-2-adamantyl esters comprises reacting a 2-alkyl-2-adamantanol with a carboxylic acid such as acrylic acid in the presence of both an acid catalyst such as concentrated sulfuric acid and a desiccating agent consisting of an acid or neutral inorg. compound (such as magnesium sulfate) which is solid in a dry state at normal temps. or a water-absorbent polymer. These esters are important as raw material of the resist with high dry-etching resistance for the production of semiconductor devices. Thus, a solution of 7.5 g 2-adamantanone in 30 mL THF was added dropwise to a solution of 0.06 mmol

methylmagnesium bromide in 44 mL THF at <40° and stirred at 50° for 3 h to quant. give a THF solution of 2-methyl-2-adamantanol magnesiumbromide salt I (R1 = Me, X = Br). The latter solution was cooled to room temperature and treated with 1.62 g Et3N, followed adding 6.90 g methacryloyl chloride at 25° under stirring, and the resulting mixture was stirred for 3 h, quenched by adding 1.25 mL ion-exchanged H2O, treated with 0.02 g phenothiazine (polymerization inhibitor), and concentrated under reduced pressure to remove the solvent. The concentrated residue was treated with 75 g heptane, successively washed with 1 M aqueous NH4Cl, 10% aqueous NaOH, and ion-exchanged H2O, and concentrated under reduced pressure to give 99.1% crude 2-methyl-2-adamantanyl methacrylate (93.1% purity) which can be used for certain purpose without purification

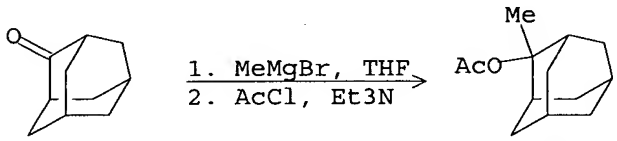
RX(1) OF 9



99%

NOTE: addn. reaction at 50.degree. for 3 h; esterification at 25.degree. for 3 h

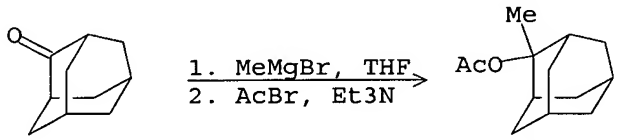
RX(2) OF 9



99%

NOTE: addn. reaction at 50.degree. for 3 h; esterification at 25.degree. for 3 h

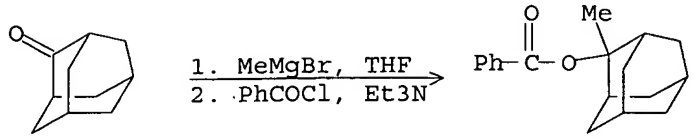
RX(3) OF 9



91%

NOTE: addn. reaction at 50.degree. for 3 h; esterification at 25.degree. for 3 h

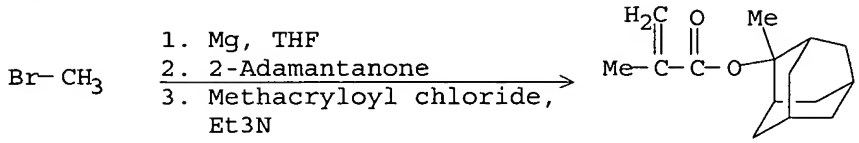
RX(4) OF 9



85%

NOTE: addn. reaction at 50.degree. for 3 h; esterification at 25.degree. for 3 h

RX(5) OF 9



75%

NOTE: Grignard reaction at 25.degree. for 3 h; addn. reaction of Grignard reagent (methylmagnesium bromide) at 50.degree. for 3 h (100% yield); esterification at 50.degree. for 3 h

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

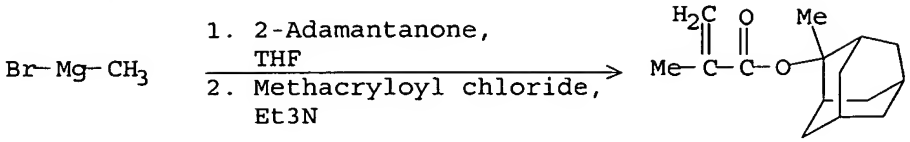
L34 ANSWER 5 OF 9 CASREACT COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 136:69612 CASREACT
TITLE: Preparation of 2-alkyl-2-adamantyl (meth)acrylates with high purity
INVENTOR(S): Yamaguchi, Masao; Yamamoto, Hiromasa; Hirota, Yoshihiro
PATENT ASSIGNEE(S): Tokuyama Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002003448	A2	20020109	JP 2000-184344	20000620

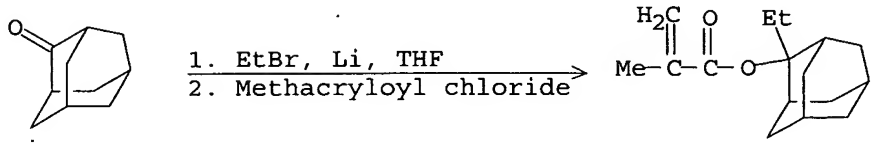
PRIORITY APPLN. INFO.: JP 2000-184344 20000620

AB Title compds. are prepared by reaction of 2-alkyladamantanes or 2-alkylideneadamantanes having alkyl group, OH group, and OM group (M = alkali metal, MgX; X = halo) with (meth)acrylates and thin film distillation of the resulting crude 2-alkyl-2-adamantyl (meth)acrylates. 2-Adamantanone was reacted with MeMgBr and condensed with methacryloyl chloride in the presence of Et3N at 50° to give 2-methyl-2-adamantyl methacrylate, which was distilled resulting in 97% purity.

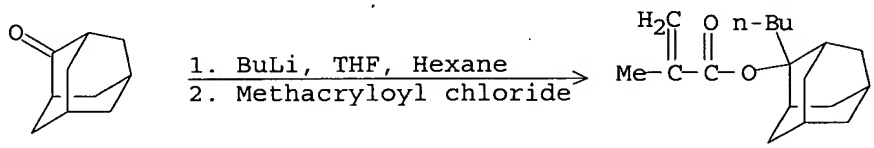
RX(1) OF 3



RX(2) OF 3



RX(3) OF 3



L34 ANSWER 6 OF 9 CASREACT COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 135:371471 CASREACT
TITLE: Process for producing 2-alkyl-2-adamantyl ester by addition reaction of alkyllithium with 2-adamantanone and esterification with acid halide
INVENTOR(S): Yamaguchi, Masao; Kikuchi, Hideki; Hirota, Yoshihiro
PATENT ASSIGNEE(S): Tokuyama Corporation, Japan
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001087817	A1	20011122	WO 2001-JP4028	20010515
W: CN, IN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1283198	A1	20030212	EP 2001-930145	20010515
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 2003120106	A1	20030626	US 2002-276690	20021118
US 6770777	B2	20040803		
PRIORITY APPLN. INFO.:			JP 2000-143036	20000516
			WO 2001-JP4028	20010515

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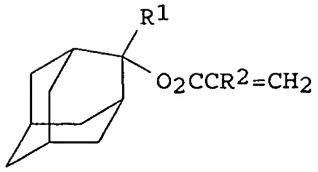
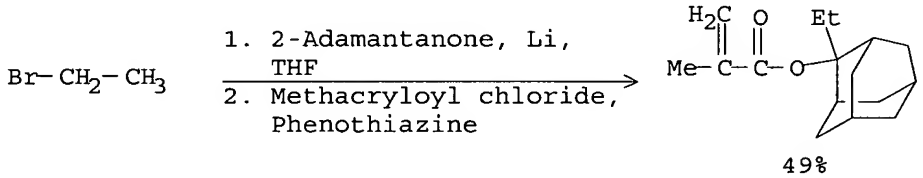


I

AB Described is a process for producing a 2-alkyl-2-adamantyl ester, characterized by mixing and reacting a solution or suspension containing 2-adamantanone and a halogenoalkyl compound with lithium metal to obtain a lithium 2-alkyl-2-adamantyl alcoholate and subsequently reacting the lithium 2-alkyl-2-adamantyl alcoholate with an acid halide. When acryloyl halide or methacryloyl halide is used as the acid halide, 2-alkyl-2-adamantyl (meth)acrylate (I; R1 = C1-6 alkyl; R2 = H, Me) are obtained. I are useful as raw materials for manufacturing semiconductor resists. Thus, a solution of 30 g 2-adamantanone and 26.2 g Et bromide in 90 g THF was added dropwise to a solution of 2.78 g Li in 30 g THF at .apprx.40° and then heated at 45° for 1 h to give a solution of lithium 2-ethyl-2-adamantylate with 98% conversion of 2-adamantanone. The reaction solution was added dropwise to 22.0 g methacryloyl chloride and 0.08 g phenothiazine (polymerization inhibitor) at ≤10° over a period of 2 h and stirred at ≤10° for 4 h to give, after workup and recrystn. from iso-Pr alc., 49.4% 2-ethyl-2-adamantyl methacrylate (99.0% purity).

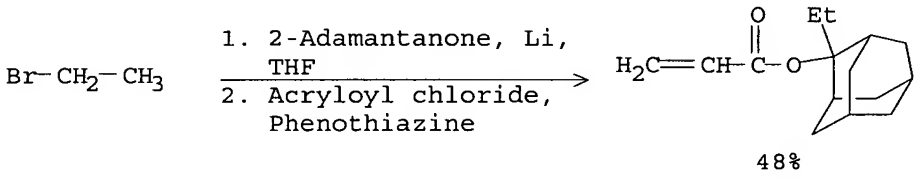
RX(1) OF 4



49%

NOTE: addn. reaction at 45.degree. for .apprx.1 h; esterification at .ltoreq.10.degree. for 6 h in the presence of polymn. inhibitor (phenothiazine)

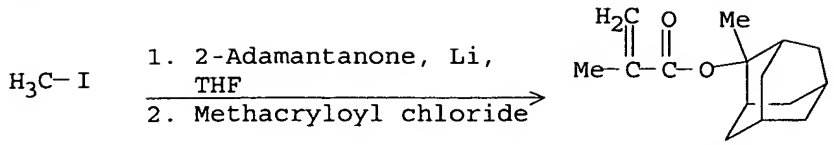
RX(2) OF 4



48%

NOTE: addn. reaction at 45.degree. for .apprx.1 h; esterification at .ltoreq.10.degree. for 6 h in the presence of polymn. inhibitor (phenothiazine)

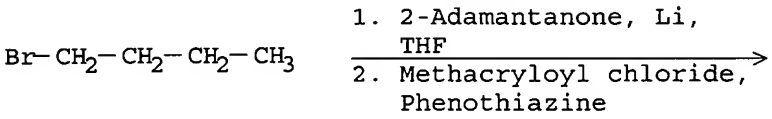
RX(3) OF 4

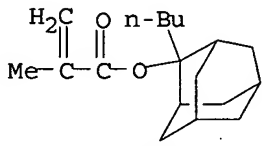


59%

NOTE: addn. reaction at 0.degree. for .apprx.3 h; esterification at .ltoreq.10.degree. and then room temp. for 3 h

RX(4) OF 4





40%

NOTE: addn. reaction at 45.degree. for .apprx.1 h; esterification at .ltoreq.10.degree. for 6 h in the presence of polymn. inhibitor (phenothiazine)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 7 OF 9 CASREACT COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 135:357712 CASREACT
TITLE: Process for preparation of alicyclic ketones and alkyl-substituted alicyclic esters
INVENTOR(S): Yamaguchi, Masao; Yamamoto, Hiromasa; Kikuchi, Hideki; Hirota, Yoshihiro; Kadokura, Atsushi; Matsumura, Takashi
PATENT ASSIGNEE(S): Tokuyama Corporation, Japan
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001083419	A1	20011108	WO 2001-JP3631	20010426
W: CN, IN, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2002012570	A2	20020115	JP 2001-61204	20010306
EP 1277725	A1	20030122	EP 2001-925962	20010426
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

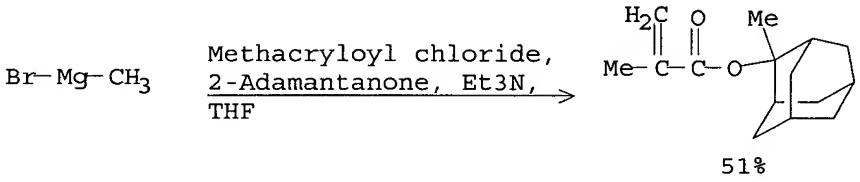
IE, FI, CY, TR

TW 221835	B1	20041011	TW 2001-90110038	20010426
US 2003109747	A1	20030612	US 2002-258796	20021028
US 6781016	B2	20040824		
PRIORITY APPLN. INFO.:			JP 2000-129295	20000428
			WO 2001-JP3631	20010426

AB Alicyclic ketones serving as raw materials in the preparation of alkyl-substituted alicyclic esters (such as alkyladamantyl esters) useful as raw materials for resists can be obtained at high purity by simple extraction without a special purification step such as distillation or recrystn.

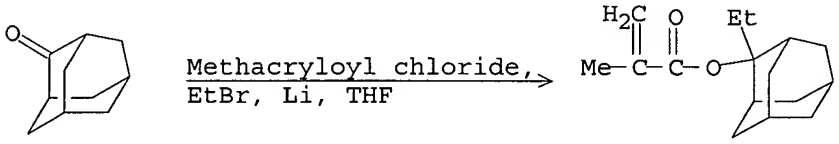
According to the present invention, an alicyclic ketone is obtained by a process which comprises oxidizing an alicyclic hydrocarbon with concentrated sulfuric acid or fuming sulfuric acid, pouring the reaction fluid into water, and extracting the resulting mixture with an organic solvent, wherein the sulfuric acid concentration of the aqueous layer of the mixture to be extracted is adjusted to 60 weight% to 90 weight% prior to the extraction This document also describes the process for preparing alkyl-substituted alicyclic esters from alicyclic ketones.

RX(1) OF 5



51%

RX(3) OF 5



29%

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

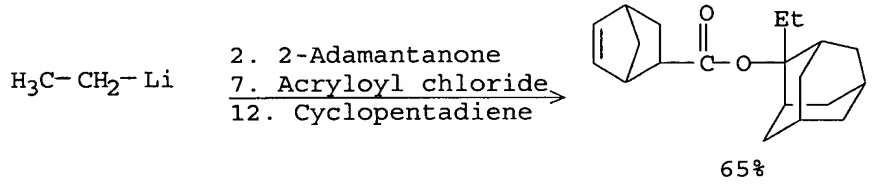
L34 ANSWER 8 OF 9 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:	134:295569 CASREACT
TITLE:	Process for the preparation of 2-ethyl- or 2-methyl-2-adamantyl 5-norbornene-2-carboxylate
INVENTOR(S):	Jung, Hyun-Jin
PATENT ASSIGNEE(S):	Chem Search Corp., S. Korea
SOURCE:	U.S., 6 pp. CODEN: USXXAM
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1
PATENT INFORMATION:	

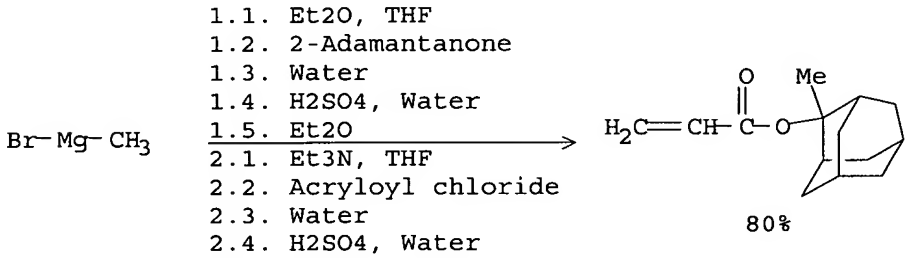
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6222061	B1	20010424	US 2000-516612	20000301
KR 2001081853	A	20010829	KR 2000-8034	20000219
JP 2001233834	A2	20010828	JP 2000-313914	20001013
EP 1125917	A1	20010822	EP 2001-301440	20010219
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CN 1310167	A	20010829	CN 2001-103891	20010219
PRIORITY APPLN. INFO.:			KR 2000-8034	20000219

AB 2-Methyl- and 2-ethyl-2-adamantyl 5-norbornene-2-carboxylates, useful as monomers (no data), are prepared in high yield and selectivity by: (A) synthesizing 2-methyl- or 2-ethyl-2-adamantanol by reacting 2-adamantanone with either a Me or Et Grignard reagent or lithium compound; (B) synthesizing 2-methyl- or 2-ethyl-2-adamantyl acrylate by the esterification of the alcs. from step A with acryloyl chloride; and (C) subjecting the 2-methyl- or 2-ethyl-2-adamantyl acrylate to a Diels-Alder reaction with cyclopentadiene.

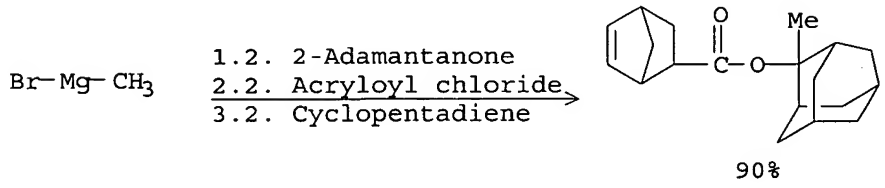
RX(4) OF 7



RX(5) OF 7 - 2 STEPS



RX(7) OF 7 - 3 STEPS



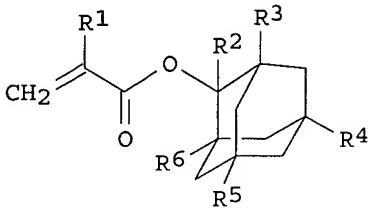
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 9 OF 9 CASREACT COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 133:163906 CASREACT
TITLE: Preparation of 2-alkyl-2-adamantyl (meth)acrylates
INVENTOR(S): Murata, Naoshi
PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000229911	A2	20000822	JP 1999-29014	19990205

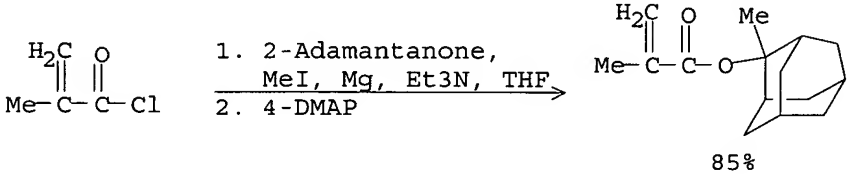
PRIORITY APPLN. INFO.: JP 1999-29014 19990205
OTHER SOURCE(S): MARPAT 133:163906
GI



I

AB 2-Alkyl-2-adamantyl (meth)acrylates I (R1 = H, Me; R2 = alkyl; R3-R6 = H, alkyl), useful as materials for coatings, adhesives, resists, etc., are prepared by chlorination of (meth)acrylic acid with BzCl or PCl3, then esterification of the resulting (meth)acryloyl chloride with the corresponding 2-alkyl-2-adamantanols or 2-adamantanones. 2-Methyl-2-adamantanol was esterified with methacryloyl chloride (prepared from methacrylic acid and BzCl) in the presence of Et3N and dimethylaminopyridine at 20-24° for 20 h in CH2Cl2 to give 86% 2-methyl-2-adamantyl methacrylate.

RX(3) OF 5



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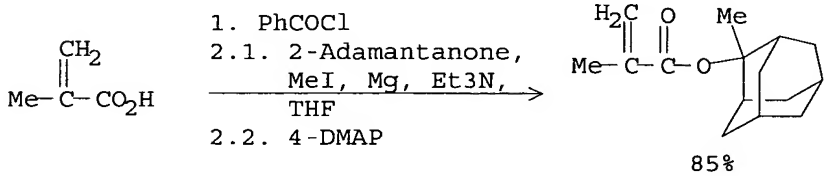
RX(5) OF 5 - 2 STEPS



85%

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TOO MANY TERMS FOR FILE CROSSOVER IN L15
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one file to another.  Enter HELP CROSSOVER at an arrow prompt (=>)
for specific information.

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L4                STR
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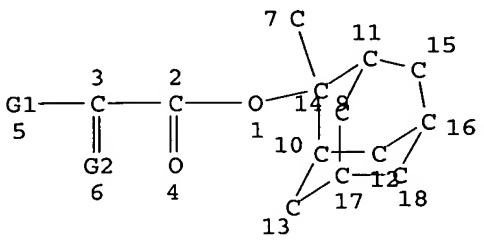

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G3~C~G3
24 @25 26

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VAR G2=CH2/22/25
VAR G3=19/X/20
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CONNECT IS E1  RC AT  19
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  25

STEREO ATTRIBUTES: NONE
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L7           762 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6(L)PREP+ALL/RL
L10               STR
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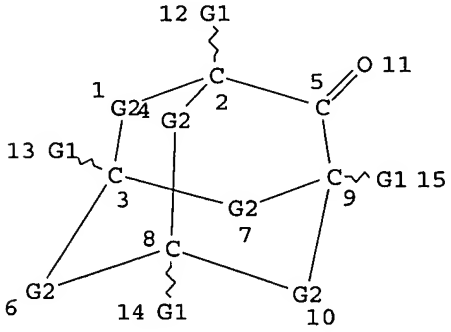

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NODE ATTRIBUTES:
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CONNECT IS E1  RC AT  16
CONNECT IS E1  RC AT  18
CONNECT IS E1  RC AT  19
CONNECT IS E1  RC AT  21
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  21

STEREO ATTRIBUTES: NONE
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L13         965 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L12(L)RACT+ALL/RL
L14          55 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13 AND L7
L15      105396 SEA FILE=REGISTRY ABB=ON  PLU=ON  LI/ELS
L16      325658 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L15
L17          23 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L16 AND L14


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YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y


L17  ANSWER 1 OF 23  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2005:810964  HCAPLUS
DOCUMENT NUMBER:          143:212281
TITLE:                    Manufacture of high-purity 2-alkyl-2-adamantyl
                          (meth)acrylates
INVENTOR(S):              Suzuki, Mitsuo; Sumida, Minoru; Nishimura, Yoshio;
                          Isobe, Takehiko; Minasaka, Akihiko
PATENT ASSIGNEE(S):       Mitsubishi Gas Chemical Co., Ltd., Japan
SOURCE:                   Jpn. Kokai Tokkyo Koho, 8 pp.
                          CODEN: JKXXAF
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
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     JP 2005220042         A2    20050818    JP 2004-27525            20040204
PRIORITY APPLN. INFO.:                       JP 2004-27525            20040204
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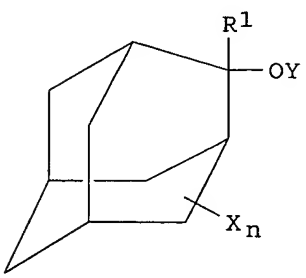


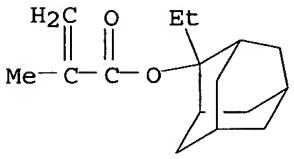
I

AB Title compds., useful as materials for resists, etc., are manufactured by reaction of 2-alkyl-2-adamantoxides I [R1 = C1-6 hydrocarbyl; Y = alkali metal, Mg halide; X = H, (halo)alkyl, halo, ether bond-containing hydrocarbyl; n = 1-14] with H2C:CR2CO2R3 [R2 = H, Me; R3 = hydrocarbyl, ether bond-containing hydrocarbyl, (meth)acryloyl], then adsorbing the products on silica gel with average pore size 5-20 nm. Thus, 2-adamantanone was reacted with EtLi in THF and transesterified with Me methacrylate to give crude 2-ethyl-2-adamantyl methacrylate, which was passed through silica gel (average pore size 6 nm)-packed column and washed with 5% aqueous H2SO4 and water to remove Li, Na, Mg, Al, K, Ca, Cr, Mn, Fe, Ni, Cu, Zn, Sn, and Pb to ≤50 ppb.

IT **209982-56-9P**, 2-Ethyl-2-adamantyl methacrylate
RL: **IMF (Industrial manufacture)**; **PUR (Purification or recovery)**; **PREP (Preparation)**
(manufacture of metal-free alkyladamantyl (meth)acrylates using silica gel for resists)

RN 209982-56-9 HCAPLUS

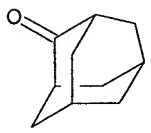
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **700-58-3**, 2-Adamantanone
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(manufacture of metal-free alkyladamantyl (meth)acrylates using silica gel for resists)

RN 700-58-3 HCAPLUS

CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



IT **811-49-4**, Ethyllithium **917-54-4**, Methyllithium
RL: RGT (Reagent); RACT (Reactant or reagent)
(manufacture of metal-free alkyladamantyl (meth)acrylates using silica gel for resists)

RN 811-49-4 HCAPLUS

CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

H_3C-CH_2-Li

RN 917-54-4 HCAPLUS

CN Lithium, methyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

H_3C-Li

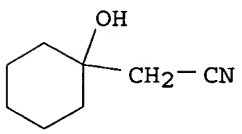
L17 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:522122 HCAPLUS
DOCUMENT NUMBER: 143:44193
TITLE: Preparation of (meth)acrylates and their raw materials for polymers with good sensitivity, resolution, and dry etching resistance.
INVENTOR(S): Otake, Atsushi
PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 42 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005154427	A2	20050616	JP 2004-314525	20041028
PRIORITY APPLN. INFO.:			JP 2003-372356 A	20031031

AB The present invention relates to β-cyanohydrin analogs CR1R2(OX)CN, wherein X = H, alkali metal, or magnesium halide; R1 = C1-6 alkyl having (alkyl substituted) C4-16 cyclic hydrocarbon group; R2 = C1-6 alkyl (R1 and R2 form (alkyl substituted) C4-16 cycli hydrocarbon group by bonding carbon atoms); and the alkyl and cyclic hyrocarbon groups may be substituted with hydroxy, carboxy, C1-6 alkoxy or acyl, or carboxy group esterified with C1-6 alcs. Thus, 2.05 g acetonitrile and 7.6 g camphor were reacted at 0° in the presence of butyllithium, 5.2 h methacryloyl chloride was added therein at -40° and reacted at -40° for 2 h to give a cyano-containing methacrylate, 52.2 parts of which was copolymd. with 93.7 parts 2-methacryloyloxy-2-methyladamantane and 68.1 parts α-methacryloyloxy-γ-butyrolactone in the presence of AIBN to give a copolymer with Mw 7600, polydispersity 1.75, good sensitivity, resolution, and dry etching resistance when used as a photoresist material.

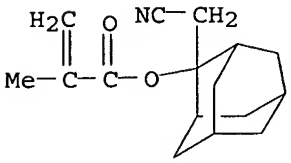
IT **853644-86-7P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; preparation of (meth)acrylates and their raw materials for polymers with good sensitivity, resolution, and dry etching resistance.)

RN 853644-86-7 HCAPLUS
CN Cyclohexaneacetonitrile, 1-hydroxy-, lithium salt (9CI) (CA INDEX NAME)



● Li

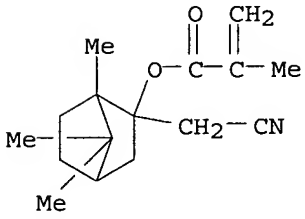
IT **853644-75-4P**
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(monomer; preparation of (meth)acrylates and their raw materials for polymers with good sensitivity, resolution, and dry etching resistance.)
RN 853644-75-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(cyanomethyl)tricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **853644-78-7P 853644-79-8P 853644-80-1P**
853644-81-2P 853644-83-4P 853735-28-1P
RL: **IMF (Industrial manufacture)**; POF (Polymer in formulation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation of (meth)acrylates and their raw materials for polymers with good sensitivity, resolution, and dry etching resistance.)
RN 853644-78-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(cyanomethyl)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, polymer with 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

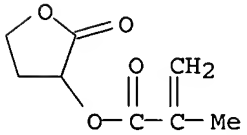
CM 1

CRN 853644-74-3
CMF C16 H23 N O2



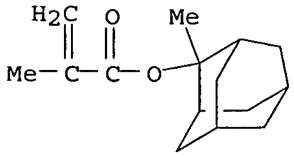
CM 2

CRN 195000-66-9
CMF C8 H10 O4



CM 3

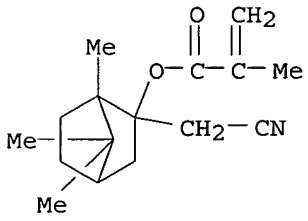
CRN 177080-67-0
CMF C15 H22 O2



RN 853644-79-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(cyanomethyl)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, polymer with 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate, tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate and 1,7,7-trimethylbicyclo[2.2.1]hept-2-ylideneacetonitrile (9CI) (CA INDEX NAME)

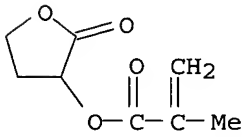
CM 1

CRN 853644-74-3
CMF C16 H23 N O2



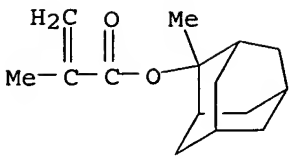
CM 2

CRN 195000-66-9
CMF C8 H10 O4



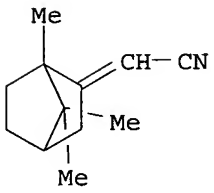
CM 3

CRN 177080-67-0
CMF C15 H22 O2



CM 4

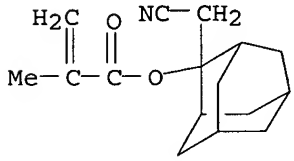
CRN 23985-14-0
CMF C12 H17 N



RN 853644-80-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(cyanomethyl)tricyclo[3.3.1.13,7]dec-2-yl ester, polymer with 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

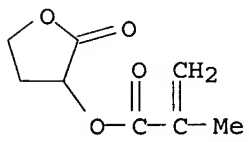
CM 1

CRN 853644-75-4
CMF C16 H21 N O2



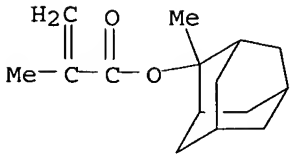
CM 2

CRN 195000-66-9
CMF C8 H10 O4



CM 3

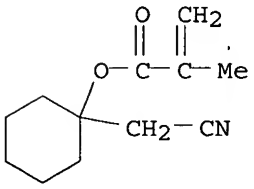
CRN 177080-67-0
CMF C15 H22 O2



RN 853644-81-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1-(cyanomethyl)cyclohexyl ester, polymer with cyclohexylideneacetonitrile, 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

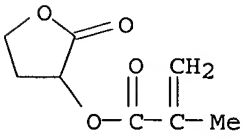
CM 1

CRN 844662-47-1
CMF C12 H17 N O2



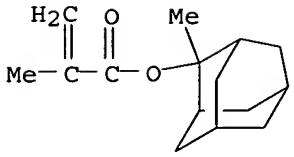
CM 2

CRN 195000-66-9
CMF C8 H10 O4



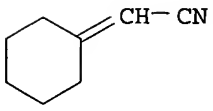
CM 3

CRN 177080-67-0
CMF C15 H22 O2



CM 4

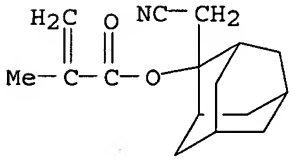
CRN 4435-18-1
CMF C8 H11 N



RN 853644-83-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(cyanomethyl)tricyclo[3.3.1.13,7]dec-2-yl ester, polymer with 1-methylcyclohexyl 2-methyl-2-propenoate, octahydro-1(or 3)-oxo-4,7-methanoisobenzofuran-5-yl 2-methyl-2-propenoate and tricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

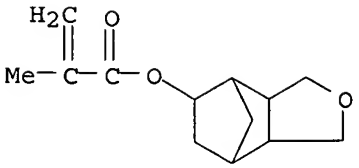
CM 1

CRN 853644-75-4
CMF C16 H21 N O2



CM 2

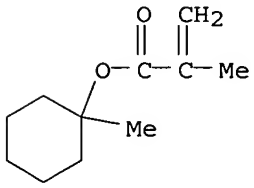
CRN 436852-34-5
CMF C13 H16 O4
CCI IDS



D2═O

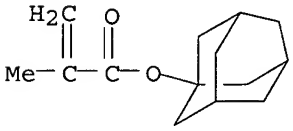
CM 3

CRN 76392-14-8
CMF C11 H18 O2



CM 4

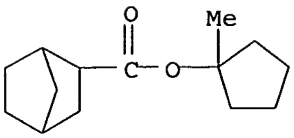
CRN 16887-36-8
CMF C14 H20 O2

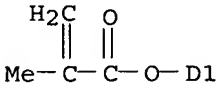


RN 853735-28-1 HCAPLUS
CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, 1-methylcyclopentyl ester, polymer with 2-(cyanomethyl)tricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

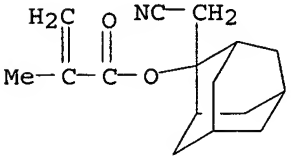
CRN 853735-27-0
CMF C18 H26 O4
CCI IDS





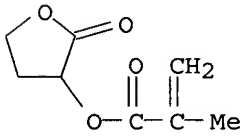
CM 2

CRN 853644-75-4
CMF C16 H21 N O2



CM 3

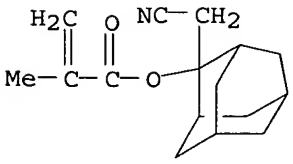
CRN 195000-66-9
CMF C8 H10 O4



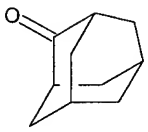
IT **853644-77-6P**
RL: **IMF (Industrial manufacture)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation of (meth)acrylates and their raw materials for polymers with good sensitivity, resolution, and dry etching resistance.)
RN 853644-77-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(cyanomethyl)tricyclo[3.3.1.13,7]dec-2-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 853644-75-4
CMF C16 H21 N O2



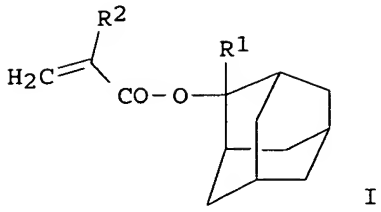
IT **700-58-3**, 2-Adamantanone
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of (meth)acrylates and their raw materials for polymers with good sensitivity, resolution, and dry etching resistance.)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



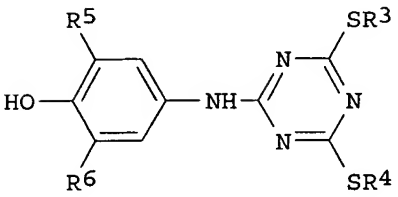
L17 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:405076 HCAPLUS
DOCUMENT NUMBER: 142:447526
TITLE: Distillation of 2-alkyl-2-adamantyl (meth)acrylates with reduced degradation and polymerization
INVENTOR(S): Oda, Yasuhiro; Eguchi, Hisao
PATENT ASSIGNEE(S): Tosoh Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005120018	A2	20050512	JP 2003-356636	20031016

PRIORITY APPLN. INFO.: JP 2003-356636 20031016
GI



I



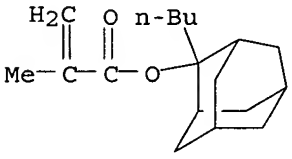
II

AB Title esters I (R1 = C1-4 alkyl; R2 = H, Me), useful as monomers used in photoresists for semiconductors, are distilled in the presence of triazines II (R3, R4 = C1-12 alkyl; R5, R6 = C1-6 alkyl). Thus, 2-adamantanone was reacted with BuLi and esterified with methacryloyl chloride to give crude 2-butyl-2-adamantyl methacrylate, 20 g of which was distilled in the presence of 2 g II (R3 = R4 = n-octyl, R5 = R6 = Me3C). HPLC areas for the degradation products and polymers were 1.2% and 3.0%, resp.

IT **209982-54-7P**, 2-Butyl-2-adamantyl methacrylate
RL: **IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation)**
(triazines as polymerization and degradation inhibitors for distillation of alkyladamantyl (meth)acrylates as monomers used in photoresists for semiconductors)

RN 209982-54-7 HCAPLUS

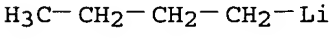
CN 2-Propenoic acid, 2-methyl-, 2-butyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



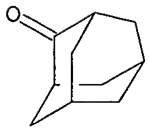
IT **109-72-8**, Butyllithium, reactions **700-58-3**, 2-Adamantanone
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(triazines as polymerization and degradation inhibitors for distillation of alkyladamantyl (meth)acrylates as monomers used in photoresists for semiconductors)

RN 109-72-8 HCAPLUS

CN Lithium, butyl- (8CI, 9CI) (CA INDEX NAME)



RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



L17 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:9514 HCAPLUS
DOCUMENT NUMBER: 142:56824
TITLE: One-pot preparation of high-purity adamantyl (meth)acrylate as materials for ArF excimer laser-sensitive photoresists
INVENTOR(S): Kikugawa, Tadashi
PATENT ASSIGNEE(S): Chemical Soft Kaihatsu Kenkysho Y. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

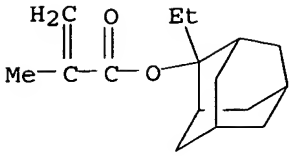
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005002001	A2	20050106	JP 2003-164221	20030609

PRIORITY APPLN. INFO.: JP 2003-164221 20030609
OTHER SOURCE(S): MARPAT 142:56824

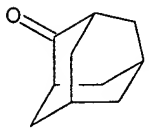
AB Title esters are prepared by (A) portionwise addition of Li to mixts. of adamantanone (I), R1X (R1 = C1-10 alkyl; X = halo), and certain solvents under cooling, followed by portionwise addition of H2C:CR2COX (R2 = H, Me; X = halo) or (H2C:CR3CO)2O (R3 = H, Me) to the resulting reaction mixts. containing alkyllithium alcoholates under cooling, or (B) portionwise add. of solns. of I in certain solvents to mixts. of Li, the alkyl halides, and certain solvents under cooling, followed by portionwise addition of the (meth)acrylic compds. to the reaction mixts. under cooling. Thus, Li was portionwise added to a mixture of 2-I, EtBr, and THF at from -30 to 10°, treated with Et3N, esterified with methacryloyl chloride at ≤10°, treated with aqueous NaOH, extracted with hexane, purified with strongly acidic ion exchanger, and crystallized to give 87% 2-ethyl-2-adamantyl methacrylate with 97% purity.

IT **209982-56-9P**, 2-Ethyl-2-adamantyl methacrylate
RL: **IMF (Industrial manufacture)**; **PUR (Purification or recovery)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(one-pot preparation of adamantyl (meth)acrylate as materials for ArF excimer laser-sensitive photoresists via alkyllithium alcoholates)

RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **700-58-3**, 2-Adamantanone **7439-93-2**, Lithium, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(one-pot preparation of adamantyl (meth)acrylate as materials for ArF excimer laser-sensitive photoresists via alkyllithium alcoholates)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



RN 7439-93-2 HCAPLUS
CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

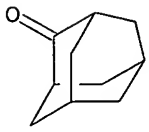
Li

L17 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:896457 HCAPLUS
DOCUMENT NUMBER: 142:93429
TITLE: Preparation method of 2-alkyl-2-adamantyl(meta)acrylate
INVENTOR(S): Jung, Hyeon Jin
PATENT ASSIGNEE(S): Chem Search Corp., S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

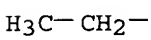
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2001081855	A	20010829	KR 2000-8036	20000219
PRIORITY APPLN. INFO.:			KR 2000-8036	20000219

AB Provided is a preparation method of 2-alkyl-2-adamantyl(meta)acrylate of chemical formula, a monomer to prepare various excellent quality polymer with good transparency and weatherproof property. By changing ester substituents, many functional polymers are produced. The compound is represented by chemical formula, where R1 is Me or Et and R2 is hydrogen or Me group. The synthetic process is comprised of converting 2-adamantanone to 2-adamantanol with methylmagnesium bromide by Grignard reaction or with ethyllithium and reacting the alc. with acryloyl chloride and triethylamine in THF.

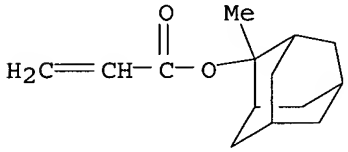
IT **700-58-3**, 2-Adamantanone **811-49-4**, Ethyllithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of alkyl adamantyl(meta)acrylate)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



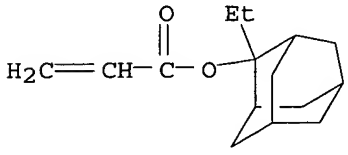
RN 811-49-4 HCAPLUS
CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT **249562-06-9P**, 2-Methyl-2-adamantyl acrylate **303186-14-3P**
, 2-Ethyl-2-adamantyl acrylate
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(preparation of alkyl adamantyl(meta)acrylate)
RN 249562-06-9 HCAPLUS
CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



RN 303186-14-3 HCAPLUS
CN 2-Propenoic acid, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)

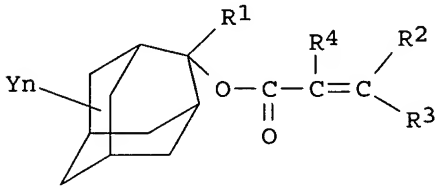


L17 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:875972 HCAPLUS
DOCUMENT NUMBER: 141:350534
TITLE: Method for the production of (un)substituted 2-hydrocarbyladamantyl acrylates
INVENTOR(S): Furukawa, Kikuo; Kakuda, Minoru; Nishimura, Yoshio; Isobe, Takehiko; Suzuki, Mitsuharu

PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Company, Inc., Japan
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1468981	A1	20041020	EP 2004-8690	20040410
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2004315464	A2	20041111	JP 2003-113990	20030418
US 2004210082	A1	20041021	US 2004-825118	20040416
PRIORITY APPLN. INFO.:			JP 2003-113990 A	20030418

OTHER SOURCE(S): MARPAT 141:350534
GI



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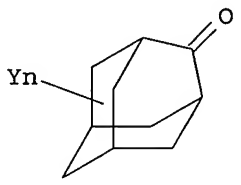
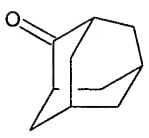


II

AB (un)substituted 2-hydrocarbyladamantyl acrylates [I; R1 = hydrocarbyl; R2-R4 = H, halogen, (halo)alkyl; Y = H, alkyl; n = 1-14; e.g., 2-ethyl-2-adamantyl methacrylate] are prepared in high yield and selectivity without using acid halides by the alkylation of 2-adamantones (II; e.g., 2-adamantone) with alkyl halides R1X (X = halogen; e.g., Et bromide) in the presence of lithium metal into the corresponding 2-hydrocarbyl-2-adamantolate intermediate (e.g., lithium 2-ethyl-2-adamantolate) which is then subjected to transesterification with acrylate esters R2(R3)C:C(R4)CO2R5 (R5 = alkyl; e.g., Me methacrylate).

IT **700-58-3**, 2-Adamantone
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(in a method for the production of (un)substituted 2-hydrocarbyladamantyl acrylates)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)

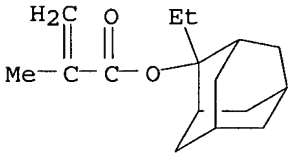


IT **7439-93-2**, Lithium, reactions
RL: RGT (Reagent); RACT (Reactant or reagent)
(in a method for the production of (un)substituted 2-hydrocarbyladamantyl acrylates)
RN 7439-93-2 HCAPLUS

CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

IT **209982-56-9P**, 2-Ethyl-2-adamantyl methacrylate
RL: **SPN (Synthetic preparation)**; **PREP (Preparation)**
(method for the production of (un)substituted 2-hydrocarbyladamantyl acrylates)
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)

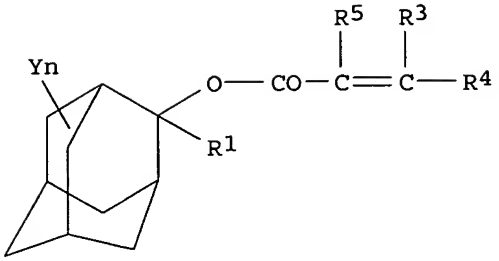


REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

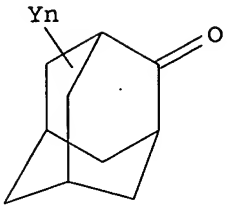
L17 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:651293 HCAPLUS
DOCUMENT NUMBER: 141:174606
TITLE: Manufacture of 2-alkyl-2-adamantyl acrylates from 2-adamantanones by Grignard reaction without side reduction
INVENTOR(S): Isobe, Takehiko; Sumida, Minoru; Nishimura, Yoshio; Furukawa, Kikuo; Suzuki, Mitsuaki
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004224705	A2	20040812	JP 2003-11180	20030120
PRIORITY APPLN. INFO.:			JP 2003-11180	20030120

OTHER SOURCE(S): MARPAT 141:174606
GI



I



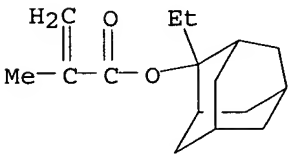
II

AB 2-Alkyl-2-adamantyl acrylates I [R1 = C2-10 hydrocarbyl; R2 = C1-10 hydrocarbyl; R3, R4 = H, halo, C1-6 (halo-substituted) hydrocarbyl; Y = H, (halo-substituted or ether-containing) hydrocarbyl, halo; n = 1-14], useful as resists, monomers for functional polymers, etc., are manufactured by treatment of 2-adamantanones II (Y, n = same as I) with R12Mg (R1 = same as I) and R2OM (R2 = same as I; M = alkali metal), followed by treatment with R3R4C:CR5CO2COCR5:CR3R4 (III; R3, R4 = same as I; R5 = same as R3) and/or R3R4C:CR5COX (R3-R5 = same as III; X = halo). Thus, 2-adamantanone was treated with MeOK and Et2Mg, and treated with methacrylic anhydride in the presence of N-nitrosophenylhydroxylamine ammonium salt to give 81% 2-ethyl-2-adamantyl methacrylate.

IT **209982-56-9P**, 2-Ethyl-2-adamantyl methacrylate
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(manufacture of alkyladamantyl acrylates as resists and monomers for functional polymers by Grignard reaction of adamantanones in the presence of alkali metal alkoxides)

RN 209982-56-9 HCAPLUS

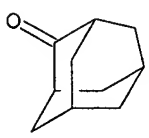
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



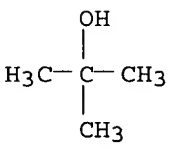
IT **700-58-3**, 2-Adamantanone
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(manufacture of alkyladamantyl acrylates as resists and monomers for functional polymers by Grignard reaction of adamantanones in the presence of alkali metal alkoxides)

RN 700-58-3 HCAPLUS

CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



IT **1907-33-1**, tert-Butoxylithium
RL: RGT (Reagent); RACT (Reactant or reagent)
(manufacture of alkyladamantyl acrylates as resists and monomers for functional polymers by Grignard reaction of adamantanones in the presence of alkali metal alkoxides)
RN 1907-33-1 HCAPLUS
CN 2-Propanol, 2-methyl-, lithium salt (9CI) (CA INDEX NAME)



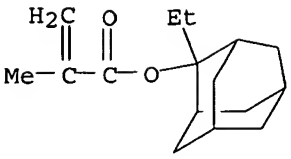
L17 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:472304 HCAPLUS
DOCUMENT NUMBER: 141:24125
TITLE: Process for manufacturing 2-alkyl-2-adamantyl (meth)acrylate
INVENTOR(S): Kikuchi, Hideki; Tanaka, Norihiro
PATENT ASSIGNEE(S): Tokuyama Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004161690	A2	20040610	JP 2002-330456	20021114

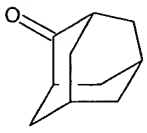
PRIORITY APPLN. INFO.: JP 2002-330456 20021114

AB The title process includes a step comprising contacting crude 2-alkyl-2-adamantyl (meth)acrylate (I) (containing colored impurities and/or oligomer impurities) with active carbon in acetonitrile to remove said impurities. I is a known monomer. I is prepared by oxidation of adamantane using sulfuric acid, followed by alkylation of the resulting adamantanone with alkylmagnesium halide, etc., and treatment of the resulting reaction liquid with (meth)acrylic acid halide or (meth)acrylic acid anhydride. 2-Ethyl-2-adamantyl methacrylate with APHA ≤ 100 was obtained by the title process.

IT **209982-56-9P**, 2-Ethyl-2-adamantyl methacrylate
RL: **IMF (Industrial manufacture); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)**
(process for manufacturing and purifying 2-alkyl-2-adamantyl (meth)acrylate with active carbon)
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **700-58-3P**, Adamantanone
RL: IMF (Industrial manufacture); **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(process for manufacturing and purifying 2-alkyl-2-adamantyl (meth)acrylate with active carbon)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



IT **7439-93-2**, Lithium, reactions
RL: RGT (Reagent); RACT (Reactant or reagent)
(process for manufacturing and purifying 2-alkyl-2-adamantyl (meth)acrylate with active carbon)
RN 7439-93-2 HCAPLUS
CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

IT **7439-93-2D**, Lithium, alkyl compds.
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for manufacturing and purifying 2-alkyl-2-adamantyl (meth)acrylate with active carbon in acetonitrile)
RN 7439-93-2 HCAPLUS
CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

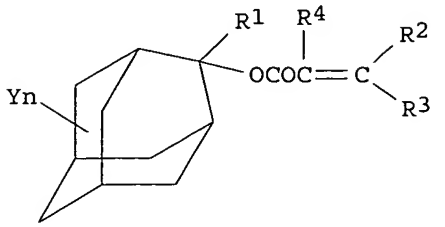
Li

L17 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:249576 HCAPLUS
DOCUMENT NUMBER: 140:254058
TITLE: Production method of adamantyl acrylates
INVENTOR(S): Furukawa, Kikuo; Sumida, Minoru; Nishimura, Yoshio; Isobe, Takehiko
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004091402	A2	20040325	JP 2002-255562	20020830
PRIORITY APPLN. INFO.:			JP 2002-255562	20020830
OTHER SOURCE(S):	MARPAT 140:254058			

GI



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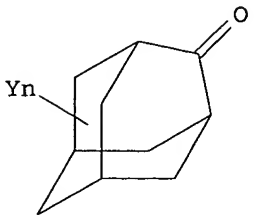


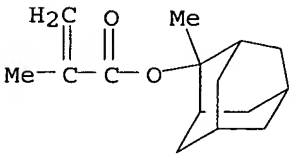
II

AB Adamantyl acrylates I are obtained from 2-adamantanones II and ≥1 acrylic acid compound CR2R3:CR4COOR5 or (CR2R3:CR4CO)2O in the presence of ≥1 organometallic compound R1MgX or R1Li and polymerization inhibitors, wherein Y = H, alkyl, halogen-containing alkyl, hydroxy, halogen, or halogen, hydroxy, or ether-containing hydrocarbyl; R1 = hydrocarbon, halogen-containing alkyl; R2, R3, R4 = H, alkyl, halogen, or halogen-containing alkyl; R5 = alkyl; x = halogen atom; and n = 1-14 integer. Thus, 5.0 g 2-adamantanone was stirred with 1.2 equiv methyllithium, 10 g Me methacrylate was added therein and reacted at 55° for 4.5 h to give 7.4 g (yield 96%) 2-methyl-2-adamantyl methacrylate.

IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(preparation of adamantyl acrylates)

RN 177080-67-0 HCAPLUS

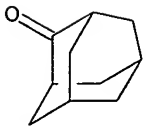
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **700-58-3**, 2-Adamantanone **811-49-4**, Ethyllithium
917-54-4, Methyllithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of adamantyl acrylates)

RN 700-58-3 HCAPLUS

CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



RN 811-49-4 HCAPLUS
CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

H_3C-CH_2-Li

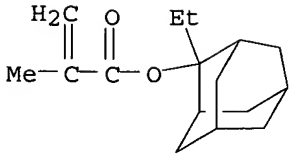
RN 917-54-4 HCAPLUS
CN Lithium, methyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

H_3C-Li

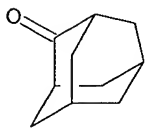
L17 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:36430 HCAPLUS
DOCUMENT NUMBER: 138:106431
TITLE: Process for preparation of lithium adamantylates, adamantanols, and adamantyl esters
INVENTOR(S): Kikukawa, Tadashi; Murai, Yoshihiro; Kaimasu, Taketoshi
PATENT ASSIGNEE(S): Chemical Soft Kaihatsu Kenkyusho Y. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003012579	A2	20030115	JP 2001-195705	20010628

PRIORITY APPLN. INFO.: JP 2001-195705 20010628
OTHER SOURCE(S): MARPAT 138:106431
AB This invention pertains to prepn of CR1R2R3OLi, CR1R2R3OH, and CR1R2R3OCOR4 [wherein R1 and R2 = independently H, alkyl, or aryl; or R1 and R2 together form a ring with the carbon atom attached; R3 = (cyclo)alkyl, alkenyl, or aryl; R4 = H, alkyl, alkenyl, or aryl] comprising reaction of ketone R1R2CO and lithium, followed by the addition of R3-halo. For example, 2-adamantanone was treated with lithium in THF, followed by the addition of Et bromide to afford 2-ethyl-2-adamantanol (65%). This method avoids the use of dangerous alkyllithium and low b.p. solvents to provide lithium alkoxides safely in high yields. Adamantyl esters can be used as resist materials in industry (no data).
IT **209982-56-9P**
RL: **IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)**
(preparation of lithium adamantylates, adamantanols, and adamantyl esters)
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **700-58-3**, 2-Adamantanone **7439-93-2**, Lithium, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of lithium adamantylates, adamantanols, and adamantyl esters)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



RN 7439-93-2 HCAPLUS
CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

L17 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:964314 HCAPLUS
DOCUMENT NUMBER: 138:39049
TITLE: Process for producing 2-alkyl-2-adamantyl (meth)acrylate
INVENTOR(S): Yamaguchi, Masao; Hirota, Yoshihiro; Shiigi, Hirofumi; Ohshima, Eiji
PATENT ASSIGNEE(S): Tokuyama Corporation, Japan
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

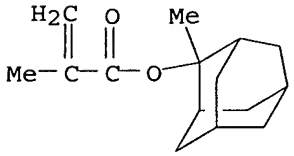
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002100816	A1	20021219	WO 2002-JP5541	20020605
W: CN, IN, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
CN 1527810	A	20040908	CN 2002-809487	20020605
JP 2003055301	A2	20030226	JP 2002-165328	20020606

PRIORITY APPLN. INFO.: JP 2001-172087 A 20010607
OTHER SOURCE(S): MARPAT 138:39049
AB A metal 2-alkyl-2-adamantyl alcoholate is reacted with (meth)acrylic anhydride or with an ester of a C2-8 alc. having a double bond between the

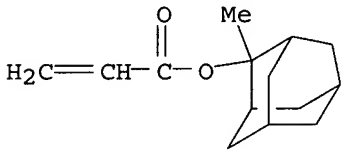
α- and β-positions with (meth)acrylic acid to produce a 2-alkyl-2-adamantyl (meth)acrylate. 2-Alkyl-2-adamantyl (meth)acrylates are materials for semiconductor resists. A tertiary amine compound may be added to the reaction system during the esterification, whereby the target compound can be obtained at a higher conversion. 2-Methyl-2-adamantyl acrylate was prepared in 63% yield by the title process.

IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
249562-06-9P, 2-Methyl-2-adamantyl acrylate **303186-14-3P**
, 2-Ethyl-2-adamantyl acrylate
RL: **IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)**
(process for producing 2-alkyl-2-adamantyl (meth)acrylate by reaction of metal 2-alkyl-2-adamantyl alcoholate with (meth)acrylic anhydride or alkenyl (meth)acrylate)

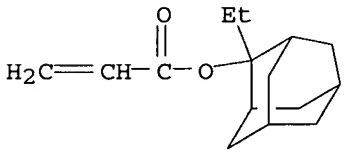
RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



RN 249562-06-9 HCAPLUS
CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



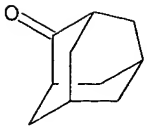
RN 303186-14-3 HCAPLUS
CN 2-Propenoic acid, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **700-58-3**, 2-Adamantanone **7439-93-2**, Lithium, reactions
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(process for producing 2-alkyl-2-adamantyl (meth)acrylate by reaction of metal 2-alkyl-2-adamantyl alcoholate with (meth)acrylic anhydride or alkenyl (meth)acrylate)

RN 700-58-3 HCAPLUS

CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



RN 7439-93-2 HCAPLUS
CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:827441 HCAPLUS
DOCUMENT NUMBER: 137:337623
TITLE: Preparation of alicyclic alcohols or alkoxides and esters from carbonyl compounds
INVENTOR(S): Nagano, Shinya; Gejizusho, Hiroshi
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

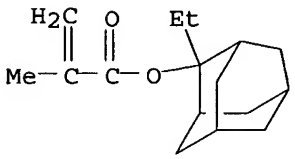
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002316958	A2	20021031	JP 2001-119190	20010418
PRIORITY APPLN. INFO.:			JP 2001-119190	20010418

OTHER SOURCE(S): MARPAT 137:337623

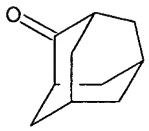
AB R1R2RaCOR5 [R1, R2 = H, hydrocarbyl, heterocyclyl; R1 and/or R2 = alicyclic hydrocarbyl or R1 and R2 are bonded together to form an alicyclic ring; Ra = C≥2 hydrocarbyl having H at γ-position from the neighboring C atom; R5 = H, MgX (X = halo)] or R3Ra2COR5 (R3 = alicyclic hydrocarbyl; Ra and R5 = same as above), useful as materials for photosensitive resins, drugs, etc., are prepared in higher yield by treating R1COR2 (I; R1, R2 = same as above) or R3COY [II; R3 = same as above; Y = halo, OR4 (R4 = H, hydrocarbyl)] with RaMgX (III; Ra = C≥2 hydrocarbyl having H at β-position from the neighboring Mg) in the presence of alkali metal salts or quaternary ammonium salts. R1R2RaCOCOR6 (R1, R2, Ra = same as above; R6 = H, hydrocarbyl, heterocyclyl) or R3Ra2OCOR6 (R3, Ra, R6 = same as above) are prepared by treating I or II with III in the presence of alkali metals or quaternary ammonium salts and treating the resulting products with R6COZ (R6 = same as above; Z = halo). 2-Adamantanone was added dropwise to a mixture of THF solution of EtMgBr and LiClO4 at room temperature The reaction mixture was further stirred at room temperature for 3 h and then treated with H2SO4 solution at ≤50° to give 39.4% 2-adamantanol and 44.9% 2-ethyl-2-adamantanol.

IT **209982-56-9P**, 2-Ethyl-2-adamantyl methacrylate

RL: **IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)**
(preparation of α-substituted alicyclic alcs. or alkoxides and esters by from carbonyl compds. and Grignard reagents)
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **700-58-3**, 2-Adamantanone
RL: **RCT (Reactant); RACT (Reactant or reagent)**
(preparation of α-substituted alicyclic alcs. or alkoxides and esters by from carbonyl compds. and Grignard reagents)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



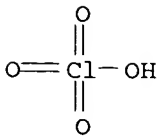
IT **7447-41-8**, Lithium chloride, reactions **7550-35-8**, Lithium bromide **7791-03-9**, Lithium perchlorate
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of α-substituted alicyclic alcs. or alkoxides and esters by from carbonyl compds. and Grignard reagents)
RN 7447-41-8 HCAPLUS
CN Lithium chloride (LiCl) (9CI) (CA INDEX NAME)

Cl—Li

RN 7550-35-8 HCAPLUS
CN Lithium bromide (LiBr) (9CI) (CA INDEX NAME)

Br—Li

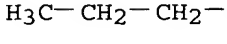
RN 7791-03-9 HCAPLUS
CN Perchloric acid, lithium salt (8CI, 9CI) (CA INDEX NAME)



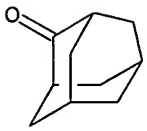
L17 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:463995 HCAPLUS
DOCUMENT NUMBER: 137:33092
TITLE: Production of (un)subsitiuted 2-hydrocarbyl-2-adamantyl (meth)acrylate compounds via the reaction of organometallic compounds with 2-adamantones and with acrylic acid esters and anhydrides
INVENTOR(S): Kakuda, Minoru; Arai, Yoshihisa; Furukawa, Kikuo; Isobe, Takehiko
PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Company, Inc., Japan
SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1215193	A2	20020619	EP 2001-129170	20011208
EP 1215193	A3	20030910		
EP 1215193	B1	20041117		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002077499	A1	20020620	US 2001-3276	20011206
US 6521781	B2	20030218		
JP 2002241342	A2	20020828	JP 2001-380135	20011213
PRIORITY APPLN. INFO.:			JP 2000-382461 A	20001215

OTHER SOURCE(S): CASREACT 137:33092; MARPAT 137:33092
AB 2-Hydrocarbyl-2-adamantyl acrylates (e.g., 2-methyl-2-adamantyl methacrylate) compds. are prepared in high yield and selectivity by reacting a(n) (un)subsitiuted 2-adamantanone (e.g., 2-adamantanone) with at least one organometallic compound (e.g., methyllithium) in the presence of an acrylate ester or anhydride derivative
IT **109-72-8**, Butyllithium, reactions **700-58-3**, 2-Adamantone **811-49-4**, Ethyllithium **917-54-4**, Methyllithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(production of (un)subsitiuted 2-hydrocarbyl-2-adamantyl (meth)acrylate compds. via the reaction of organometallic compds. with 2-adamantones and with acrylic acid esters and anhydrides)
RN 109-72-8 HCAPLUS
CN Lithium, butyl- (8CI, 9CI) (CA INDEX NAME)



RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



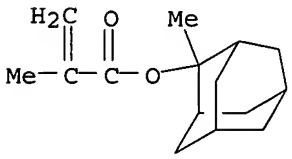
RN 811-49-4 HCAPLUS
CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

H_3C-CH_2-Li

RN 917-54-4 HCAPLUS
CN Lithium, methyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

H_3C-Li

IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
RL: **SPN (Synthetic preparation); PREP (Preparation)**
(production of (un)subsitiuted 2-hydrocarbyl-2-adamantyl (meth)acrylate compds. via the reaction of organometallic compds. with 2-adamantones and with acrylic acid esters and anhydrides)
RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



L17 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:131264 HCAPLUS
DOCUMENT NUMBER: 136:191693
TITLE: Chemically amplified resist material and manufacture of resist pattern with improved dry etching resistance using it
INVENTOR(S): Murakami, Kenichi; Takechi, Satoshi
PATENT ASSIGNEE(S): Fujitsu Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002055455	A2	20020220	JP 2000-245051	20000811

PRIORITY APPLN. INFO.: JP 2000-245051 20000811

AB The resist material contains (A) acid-sensitive polymers having structure units substituted with alkali-soluble groups protected with allyl-substituted alicyclic groups to be deprotected in the presence of acids and (B) radiation-sensitive photoacid generators. The resist pattern is manufactured by applying the above resist material on a substrate to form a resist film, prebaking the substrate, imagewise exposing the substrate to radiation, post-baking the substrate, and developing the resist film. The resist material gives heat-resistant resist patterns with keeping high sensitivity to be useful for fabrication of semiconductor integrated circuits.

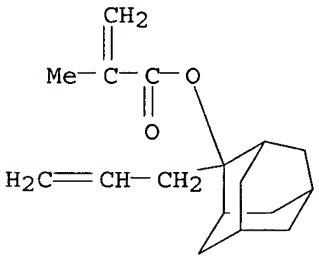
IT **400082-97-5P**, 2-Allyl-2-adamantyl methacrylate homopolymer
400082-98-6P
RL: **PNU (Preparation, unclassified)**; PRP (Properties); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(manufacture of resist pattern with improved dry etching resistance using resist material containing base polymers protected with allyl-substituted alicyclic group)

RN 400082-97-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(2-propenyl)tricyclo[3.3.1.13,7]dec-2-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 400082-96-4
CMF C17 H24 O2

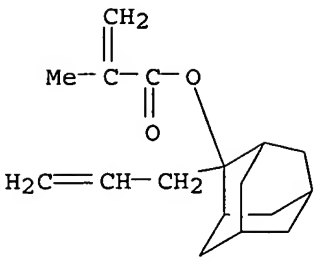


RN 400082-98-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(2-propenyl)tricyclo[3.3.1.13,7]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

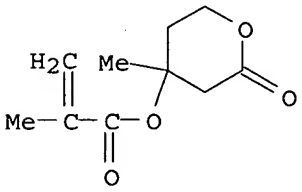
CM 1

CRN 400082-96-4
CMF C17 H24 O2

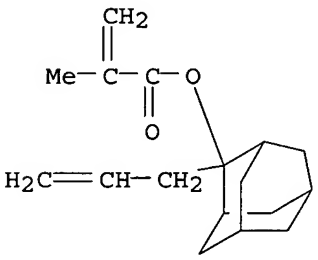


CM 2

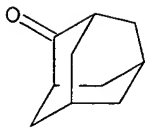
CRN 177080-66-9
CMF C10 H14 O4



IT **400082-96-4P**
RL: **PNU (Preparation, unclassified)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of base polymer from; manufacture of resist pattern with improved
dry etching resistance using resist material containing base polymers protected with allyl-substituted alicyclic group)
RN 400082-96-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(2-propenyl)tricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **700-58-3**, 2-Adamantanone **3052-45-7**, Allyl lithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of base polymer from; manufacture of resist pattern with improved
dry etching resistance using resist material containing base polymers protected with allyl-substituted alicyclic group)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



RN 3052-45-7 HCAPLUS
CN Lithium, 2-propenyl- (9CI) (CA INDEX NAME)

$H_2C{=}CH{-}CH_2{-}Li$

L17 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:23505 HCAPLUS
DOCUMENT NUMBER: 136:69612
TITLE: Preparation of 2-alkyl-2-adamantyl (meth)acrylates with high purity
INVENTOR(S): Yamaguchi, Masao; Yamamoto, Hiromasa; Hirota, Yoshihiro
PATENT ASSIGNEE(S): Tokuyama Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

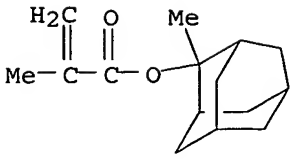
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002003448	A2	20020109	JP 2000-184344	20000620

PRIORITY APPLN. INFO.: JP 2000-184344 20000620
OTHER SOURCE(S): CASREACT 136:69612

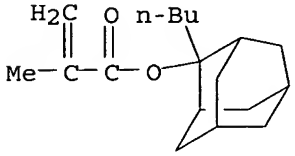
AB Title compds. are prepared by reaction of 2-alkyladamantanes or 2-alkylideneadamantanes having alkyl group, OH group, and OM group (M = alkali metal, MgX; X = halo) with (meth)acrylates and thin film distillation of the resulting crude 2-alkyl-2-adamantyl (meth)acrylates. 2-Adamantanone was reacted with MeMgBr and condensed with methacryloyl chloride in the presence of Et3N at 50° to give 2-methyl-2-adamantyl methacrylate, which was distilled resulting in 97% purity.

IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
209982-54-7P, 2-Butyl-2-adamantyl methacrylate
209982-56-9P, 2-Ethyl-2-adamantyl methacrylate
RL: **IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)**
(preparation of alkyladamantyl (meth)acrylates with high purity)

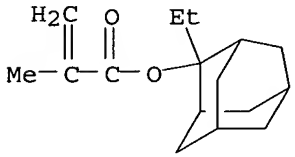
RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



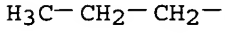
RN 209982-54-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-butyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



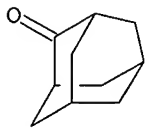
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **109-72-8**, Butyl lithium, reactions **700-58-3**, 2-Adamantanone
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of alkyladamantyl (meth)acrylates with high purity)
RN 109-72-8 HCAPLUS
CN Lithium, butyl- (8CI, 9CI) (CA INDEX NAME)



RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)

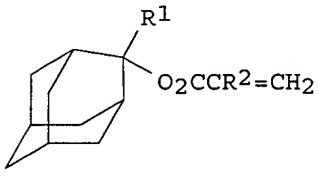


L17 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:851096 HCAPLUS

DOCUMENT NUMBER: 135:371471
TITLE: Process for producing 2-alkyl-2-adamantyl ester by addition reaction of alkyllithium with 2-adamantanone and esterification with acid halide
INVENTOR(S): Yamaguchi, Masao; Kikuchi, Hideki; Hirota, Yoshihiro
PATENT ASSIGNEE(S): Tokuyama Corporation, Japan
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001087817	A1	20011122	WO 2001-JP4028	20010515
W: CN, IN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1283198	A1	20030212	EP 2001-930145	20010515
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 2003120106	A1	20030626	US 2002-276690	20021118
US 6770777	B2	20040803		

PRIORITY APPLN. INFO.: JP 2000-143036 A 20000516
WO 2001-JP4028 W 20010515
OTHER SOURCE(S): CASREACT 135:371471
GI



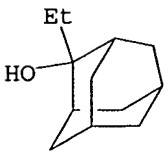
I

AB Described is a process for producing a 2-alkyl-2-adamantyl ester, characterized by mixing and reacting a solution or suspension containing 2-adamantanone and a halogenoalkyl compound with lithium metal to obtain a lithium 2-alkyl-2-adamantyl alcoholate and subsequently reacting the lithium 2-alkyl-2-adamantyl alcoholate with an acid halide. When acryloyl halide or methacryloyl halide is used as the acid halide, 2-alkyl-2-adamantyl (meth)acrylate (I; R1 = C1-6 alkyl; R2 = H, Me) are obtained. I are useful as raw materials for manufacturing semiconductor resists. Thus, a solution of 30 g 2-adamantanone and 26.2 g Et bromide in 90 g THF was added dropwise to a solution of 2.78 g Li in 30 g THF at .apprx.40° and then heated at 45° for 1 h to give a solution of lithium 2-ethyl-2-adamantylate with 98% conversion of 2-adamantanone. The reaction solution was added dropwise to 22.0 g methacryloyl chloride and 0.08 g phenothiazine (polymerization inhibitor) at ≤10° over a period of 2 h and stirred at ≤10° for 4 h to give, after workup and recrystn. from iso-Pr alc., 49.4% 2-ethyl-2-adamantyl methacrylate (99.0% purity).

IT **374595-26-3P 374595-27-4P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

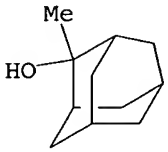
(process for producing 2-alkyladamantyl ester by addition reaction of alkyllithium with 2-adamantanone and esterification with acid halide)

RN 374595-26-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decan-2-ol, 2-ethyl-, lithium salt (9CI) (CA INDEX NAME)



● Li

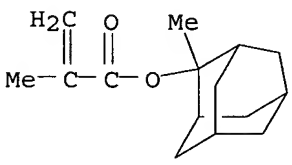
RN 374595-27-4 HCAPLUS
CN Tricyclo[3.3.1.13,7]decan-2-ol, 2-methyl-, lithium salt (9CI) (CA INDEX NAME)



● Li

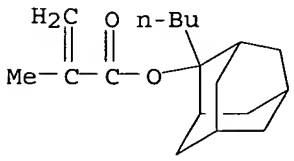
IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
209982-54-7P, 2-Butyl-2-adamantyl methacrylate
209982-56-9P, 2-Ethyl-2-adamantyl methacrylate
303186-14-3P, 2-Ethyl-2-adamantyl acrylate **374595-28-5P**
RL: **IMF (Industrial manufacture)**; **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(process for producing 2-alkyladamantyl ester by addition reaction of alkyllithium with 2-adamantanone and esterification with acid halide)

RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)

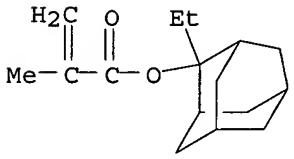


RN 209982-54-7 HCAPLUS

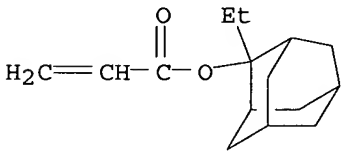
CN 2-Propenoic acid, 2-methyl-, 2-butyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



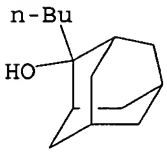
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



RN 303186-14-3 HCAPLUS
CN 2-Propenoic acid, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



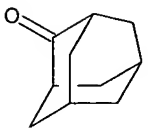
RN 374595-28-5 HCAPLUS
CN Tricyclo[3.3.1.13,7]decan-2-ol, 2-butyl-, lithium salt (9CI) (CA INDEX NAME)



● Li

IT **700-58-3**, 2-Adamantanone **7439-93-2**, Lithium, reactions
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(process for producing 2-alkyladamantyl ester by addition reaction of alkyllithium with 2-adamantanone and esterification with acid halide)

RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



RN 7439-93-2 HCAPLUS
CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

Li

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

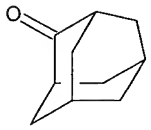
L17 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:816607 HCAPLUS
DOCUMENT NUMBER: 135:357712
TITLE: Process for preparation of alicyclic ketones and alkyl-substituted alicyclic esters
INVENTOR(S): Yamaguchi, Masao; Yamamoto, Hiromasa; Kikuchi, Hideki; Hirota, Yoshihiro; Kadokura, Atsushi; Matsumura, Takashi
PATENT ASSIGNEE(S): Tokuyama Corporation, Japan
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001083419	A1	20011108	WO 2001-JP3631	20010426
W: CN, IN, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2002012570	A2	20020115	JP 2001-61204	20010306
EP 1277725	A1	20030122	EP 2001-925962	20010426
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
TW 221835	B1	20041011	TW 2001-90110038	20010426
US 2003109747	A1	20030612	US 2002-258796	20021028
US 6781016	B2	20040824		

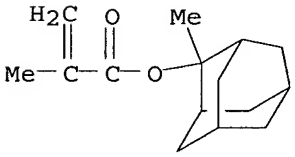
PRIORITY APPLN. INFO.: JP 2000-129295 A 20000428
WO 2001-JP3631 W 20010426
OTHER SOURCE(S): CASREACT 135:357712
AB Alicyclic ketones serving as raw materials in the preparation of alkyl-substituted alicyclic esters (such as alkyladamantyl esters) useful as raw materials for resists can be obtained at high purity by simple extraction without a special purification step such as distillation or recrystn.
According to the present invention, an alicyclic ketone is obtained by a

process which comprises oxidizing an alicyclic hydrocarbon with concentrated sulfuric acid or fuming sulfuric acid, pouring the reaction fluid into water, and extracting the resulting mixture with an organic solvent, wherein the sulfuric acid concentration of the aqueous layer of the mixture to be extracted is adjusted to 60 weight% to 90 weight% prior to the extraction This document also describes the process for preparing alkyl-substituted alicyclic esters from alicyclic ketones.

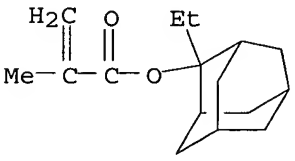
IT **700-58-3P**, 2-Adamantanone
RL: IMF (Industrial manufacture); **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(process for preparation of alicyclic ketones and alkyl-substituted alicyclic esters)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
209982-56-9P, 2-Ethyl-2-adamantyl methacrylate
RL: **IMF (Industrial manufacture)**; **SPN (Synthetic preparation)**; **PREP (Preparation)**
(process for preparation of alicyclic ketones and alkyl-substituted alicyclic esters)
RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **7439-93-2**, Lithium, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparation of alicyclic ketones and alkyl-substituted alicyclic esters)
RN 7439-93-2 HCAPLUS
CN Lithium (7CI, 8CI, 9CI) (CA INDEX NAME)

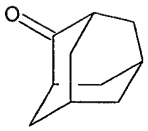
Li

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

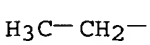
L17 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:581558 HCAPLUS
DOCUMENT NUMBER: 135:160152
TITLE: Chemically amplified positive resist composition
INVENTOR(S): Nakanishi, Junji; Takata, Yoshiyuki
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1122604	A2	20010808	EP 2001-101672	20010129
EP 1122604	A3	20030716		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001215704	A2	20010810	JP 2000-21687	20000131
SG 99336	A1	20031027	SG 2001-311	20010122
US 2001016298	A1	20010823	US 2001-770212	20010129
US 6537726	B2	20030325		
CN 1312489	A	20010912	CN 2001-102197	20010131
PRIORITY APPLN. INFO.:			JP 2000-21687 A	20000131

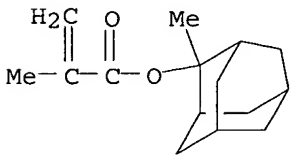
AB A chemical amplified pos. resist composition comprises a resin which, per se, is insol. or slightly soluble in alkali but becomes soluble in alkali due to an action of acid, and has a polymeric unit derived from 3-hydroxy-1-adamantyl(meth)acrylate and a polymeric unit derived from β-(meth)acryloyloxy-γ-butyrolactone wherein the lactone ring may optionally be substituted by alkyl and a photoacid. The chemical amplified pos. resist composition is capable of giving a resist film excellent in adhesion to a substrate and excellent in various resist performance characteristics such as dry etching resistance, sensitivity and resolution
IT **700-58-3**, 2-Adamantanone **811-49-4**, Ethyllithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(Chemical amplified pos. resist composition)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



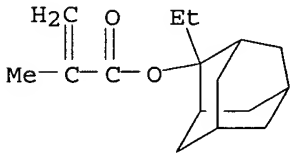
RN 811-49-4 HCAPLUS
CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
209982-56-9P, 2-Ethyl-2-adamantyl methacrylate
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(Chemical amplified pos. resist composition)
RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



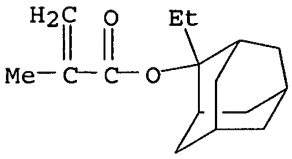
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **312620-52-3P**, β-Methacryloyloxy-γ-Butyrolactone-2-Ethyl-2-adamantyl methacrylate-3-Hydroxy-1-adamantyl methacrylate copolymer
348631-34-5P, β-Methacryloyloxy-γ-Butyrolactone-3-Hydroxy-1-adamantyl methacrylate-2-methyl-2-adamantyl methacrylate copolymer
RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(Chemical amplified pos. resist composition)
RN 312620-52-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

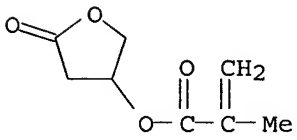
CM 1

CRN 209982-56-9
CMF C16 H24 O2



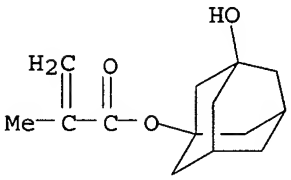
CM 2

CRN 130224-95-2
CMF C8 H10 O4



CM 3

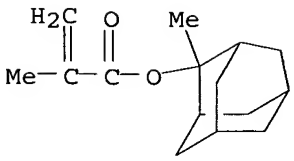
CRN 115372-36-6
CMF C14 H20 O3



RN 348631-34-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-5-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

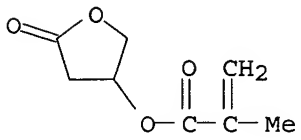
CM 1

CRN 177080-67-0
CMF C15 H22 O2



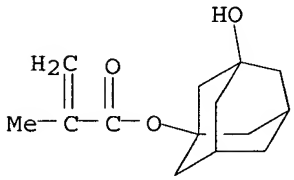
CM 2

CRN 130224-95-2
CMF C8 H10 O4



CM 3

CRN 115372-36-6
CMF C14 H20 O3



L17 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:467932 HCAPLUS
DOCUMENT NUMBER: 135:68555
TITLE: Chemically amplification type positive-working photoresist composition suitable for semiconductor device fabrication by ArF excimer laser
INVENTOR(S): Uetani, Yasunori; Fujishima, Hiroaki; Takata, Yoshiyuki
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10063064	A1	20010628	DE 2000-10063064	20001218
JP 2001183836	A2	20010706	JP 1999-364726	19991222

GB 2358256	A1	20010718	GB 2000-31072	20001220
GB 2358256	B2	20011212		
US 2001014428	A1	20010816	US 2000-741438	20001221
US 6495306	B2	20021217		

PRIORITY APPLN. INFO.: JP 1999-364726 A 19991222

AB The title photoresist composition comprises (1) a resin comprised of a dihydroxy-1-adamantyl (meth)acrylate derivative unit and a 2-alkyl-2-adamantyl (meth)acrylate derivative unit, and showing alkali-insol. or difficulty soluble, but becoming soluble upon reacting with an acid, and (2) an acid generator. The photoresist composition shows excellent photoresist characteristics.

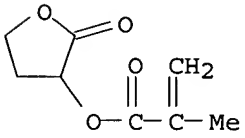
IT **345970-25-4P 345970-26-5P**
RL: PRP (Properties); **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(chemical amplification type pos.-working photoresist composition suitable for semiconductor device fabrication by ArF excimer laser)

RN 345970-25-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

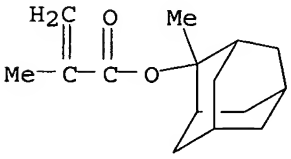
CM 1

CRN 195000-66-9
CMF C8 H10 O4



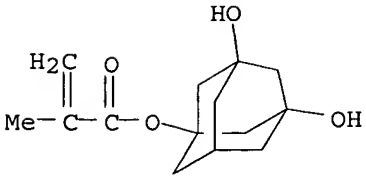
CM 2

CRN 177080-67-0
CMF C15 H22 O2



CM 3

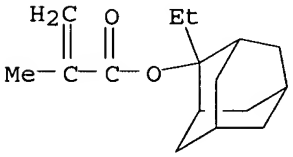
CRN 115522-15-1
CMF C14 H20 O4



RN 345970-26-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3,5-dihydroxytricyclo[3.3.1.13,7]dec-1-yl ester, polymer with 2-ethyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

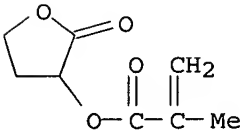
CM 1

CRN 209982-56-9
CMF C16 H24 O2



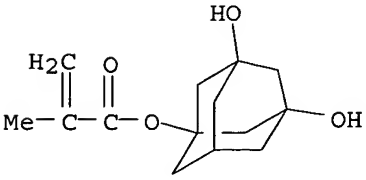
CM 2

CRN 195000-66-9
CMF C8 H10 O4

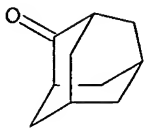


CM 3

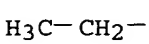
CRN 115522-15-1
CMF C14 H20 O4



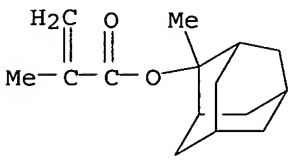
IT **700-58-3**, 2-Adamantone **811-49-4**, Ethyl lithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(synthesis of monomer for chemical amplification type pos.-working photoresist composition suitable for semiconductor device fabrication by ArF excimer laser)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



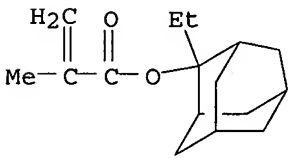
RN 811-49-4 HCAPLUS
CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
209982-56-9P
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(synthesis of monomer for chemical amplification type pos.-working photoresist composition suitable for semiconductor device fabrication by ArF excimer laser)
RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



L17 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:297654 HCAPLUS

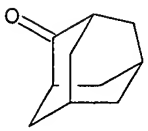
DOCUMENT NUMBER: 134:295569
TITLE: Process for the preparation of 2-ethyl- or 2-methyl-2-adamantyl 5-norbornene-2-carboxylate
INVENTOR(S): Jung, Hyun-Jin
PATENT ASSIGNEE(S): Chem Search Corp., S. Korea
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6222061	B1	20010424	US 2000-516612	20000301
KR 2001081853	A	20010829	KR 2000-8034	20000219
JP 2001233834	A2	20010828	JP 2000-313914	20001013
EP 1125917	A1	20010822	EP 2001-301440	20010219
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CN 1310167	A	20010829	CN 2001-103891	20010219

PRIORITY APPLN. INFO.: KR 2000-8034 A 20000219
OTHER SOURCE(S): CASREACT 134:295569

AB 2-Methyl- and 2-ethyl-2-adamantyl 5-norbornene-2-carboxylates, useful as monomers (no data), are prepared in high yield and selectivity by: (A) synthesizing 2-methyl- or 2-ethyl-2-adamantanol by reacting 2-adamantanone with either a Me or Et Grignard reagent or lithium compound; (B) synthesizing 2-methyl- or 2-ethyl-2-adamantyl acrylate by the esterification of the alcs. from step A with acryloyl chloride; and (C) subjecting the 2-methyl- or 2-ethyl-2-adamantyl acrylate to a Diels-Alder reaction with cyclopentadiene.

IT **700-58-3**, 2-Adamantanone **811-49-4**, Ethyl lithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(in a process for the preparation of 2-ethyl- or 2-methyl-2-adamantyl 5-norbornene-2-carboxylate)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)

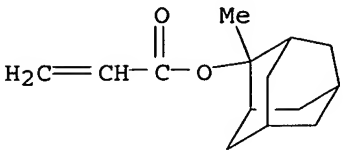


RN 811-49-4 HCAPLUS
CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

H_3C-CH_2-Li

IT **249562-06-9P**, 2-Methyl-2-adamantyl acrylate
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(in a process for the preparation of 2-ethyl- or 2-methyl-2-adamantyl 5-norbornene-2-carboxylate)
RN 249562-06-9 HCAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:663541 HCAPLUS
DOCUMENT NUMBER: 133:274230
TITLE: Chemically amplified positive-working resist composition
INVENTOR(S): Endo, Kazuhisa; Fujishima, Hiroaki; Araki, Kaoru
PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

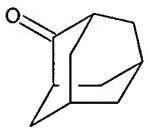
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000258915	A2	20000922	JP 1999-65432	19990311

PRIORITY APPLN. INFO.: JP 1999-65432 19990311

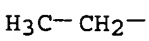
AB The title resist composition contains an acid generator and a resin, which is soluble or hardly soluble in an alkali solution, becoming alkali soluble reacting with an acid, wherein the resin is made from a monomer containing a cyano group and a monomer containing an acid-sensitive group. The composition provides a resist of the high sensitivity, resolution, and contact with a substrate.

IT **700-58-3**, 2-Adamantanone **811-49-4**, Ethyl lithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(resin in chemical amplified pos.-working resist composition)

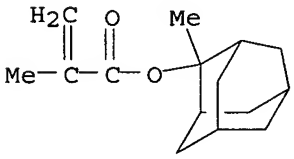
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



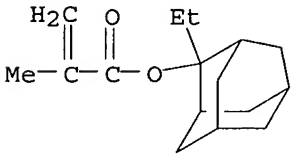
RN 811-49-4 HCAPLUS
CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



IT **177080-67-0P**, 2-Methyl-2-adamantyl methacrylate
209982-56-9P
RL: RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(resin in chemical amplified pos.-working resist composition)
RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



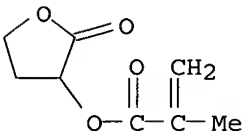
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



IT **195000-67-0P 250378-10-0P 297748-58-4P**
297748-59-5P 297748-60-8P 297752-32-0P
RL: **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(resin in chemical amplified pos.-working resist composition)
RN 195000-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

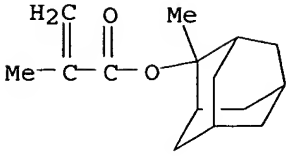
CM 1

CRN 195000-66-9
CMF C8 H10 O4



CM 2

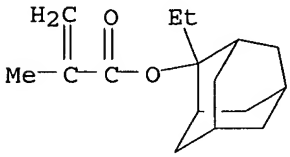
CRN 177080-67-0
CMF C15 H22 O2



RN 250378-10-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

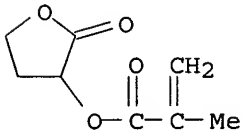
CM 1

CRN 209982-56-9
CMF C16 H24 O2



CM 2

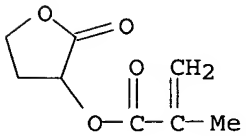
CRN 195000-66-9
CMF C8 H10 O4



RN 297748-58-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, cyanomethyl ester, polymer with 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

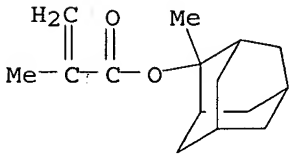
CM 1

CRN 195000-66-9
CMF C8 H10 O4



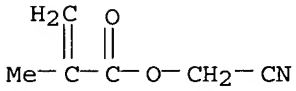
CM 2

CRN 177080-67-0
CMF C15 H22 O2



CM 3

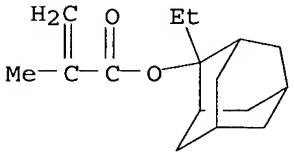
CRN 7726-87-6
CMF C6 H7 N O2



RN 297748-59-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, cyanomethyl ester, polymer with 2-ethyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

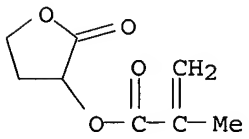
CM 1

CRN 209982-56-9
CMF C16 H24 O2



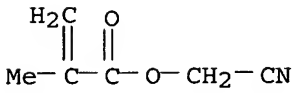
CM 2

CRN 195000-66-9
CMF C8 H10 O4



CM 3

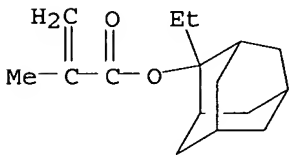
CRN 7726-87-6
CMF C6 H7 N O2



RN 297748-60-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, cyanomethyl ester, polymer with 2-ethyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

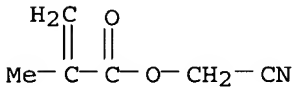
CM 1

CRN 209982-56-9
CMF C16 H24 O2



CM 2

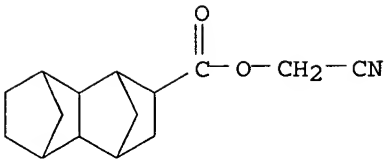
CRN 7726-87-6
CMF C6 H7 N O2

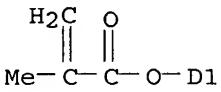


RN 297752-32-0 HCAPLUS
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(2-methyl-1-oxo-2-propenyl)oxy]-, cyanomethyl ester, polymer with cyanomethyl 2-methyl-2-propenoate and 2-methyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

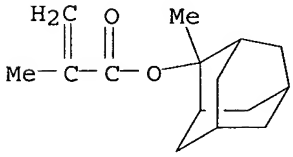
CRN 297752-31-9
CMF C19 H23 N O4
CCI IDS





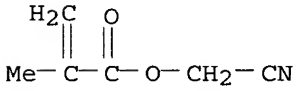
CM 2

CRN 177080-67-0
CMF C15 H22 O2



CM 3

CRN 7726-87-6
CMF C6 H7 N O2



L17 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:572406 HCAPLUS
DOCUMENT NUMBER: 131:358122
TITLE: Positive ArF resist with 2EAdMA/GBLMA resin system
AUTHOR(S): Uetani, Yasunori; Fujishima, Hiroaki; Araki, Kaoru; Endo, Kazuhisa; Takemoto, Ichiki
CORPORATE SOURCE: Fine Chemicals Research Lab., Sumitomo Chemical Co., Ltd., Konohana-ku Osaka, Japan
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1999), 3678(Pt. 1, Advances in Resist Technology and Processing XVI), 510-517
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We compared 2MAdMA(2-methyl-2-adamantylmethacrylate)/GBLMA((gamma)-butyrolactone methacrylate) resin system and 2EAdMA(2-ethyl-2-

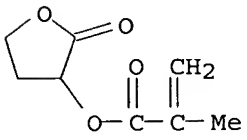
adamantylmethacrylate)/GBLMA resin system. 2EAdMA/GBLMA resin system showed higher sensitivity, dissoln. contrast and better adhesion to silicon substrate than 2MAdMA/GBLMA resin system. These results shows that 2EAdMA/GBLMA resin system is suitable for practical ArF pos. resist.

IT **195000-67-0P**, .Alpha.-Methacryloyloxy-γ-butyrolactone-2-methyl-2-adamantylmethacrylate copolymer **250378-10-0P**
RL: **PNU (Preparation, unclassified)**; PRP (Properties); **PREP (Preparation)**
(pos. ArF resist with 2EAdMA/GBLMA resin system)

RN 195000-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

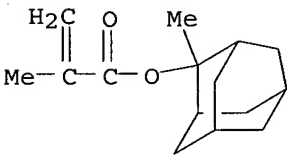
CM 1

CRN 195000-66-9
CMF C8 H10 O4



CM 2

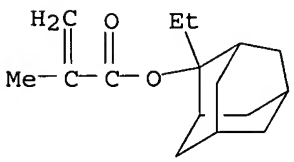
CRN 177080-67-0
CMF C15 H22 O2



RN 250378-10-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

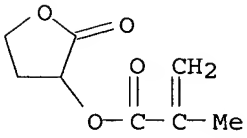
CM 1

CRN 209982-56-9
CMF C16 H24 O2

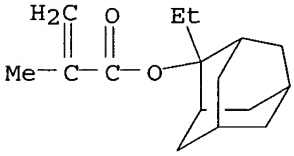


CM 2

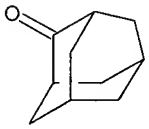
CRN 195000-66-9
CMF C8 H10 O4



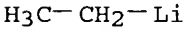
IT **209982-56-9P**
RL: **PNU (Preparation, unclassified)**; RCT (Reactant); **PREP (Preparation)**; RACT (Reactant or reagent)
(pos. ArF resist with 2EAdMA/GBLMA resin system)
RN 209982-56-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



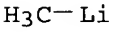
IT **700-58-3**, Adamantanone **811-49-4**, Ethyl lithium
917-54-4, Methyl lithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(pos. ArF resist with 2EAdMA/GBLMA resin system)
RN 700-58-3 HCAPLUS
CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



RN 811-49-4 HCAPLUS
CN Lithium, ethyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



RN 917-54-4 HCAPLUS
CN Lithium, methyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:430715 HCAPLUS
DOCUMENT NUMBER: 129:129015
TITLE: Preparation of tertiary alcohol ester, resist, and semiconductor device
INVENTOR(S): Takechi, Satoshi; Kikukawa, Tadashi
PATENT ASSIGNEE(S): Fujitsu Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10182552	A2	19980707	JP 1996-350765	19961227
JP 3506575	B2	20040315		
US 6248920	B1	20010619	US 1997-996158	19971222
JP 2004043498	A2	20040212	JP 2003-345906	20031003

PRIORITY APPLN. INFO.: JP 1996-350765 A 19961227

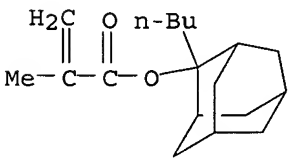
AB Title ester is prepared in one step by reaction of ketone with acid halide in the presence of RMgX, RMgX/CuX, RLi, or R(CuLi)1/2 (R = hydrocarbyl; X = halo). The resist contains acid-sensitive polymer, which is insol. to alkali and has repeating units containing protected alkali-soluble group which can be deprotected with acid, and is manufactured by (1) preparing tertiary alc. ester by the above method, (2) (co)polymerizing the ester in the presence of an initiator, and (3) mixing with an agent generating acid by radiation exposure. Sterically hindered alc. ester (e.g. adamantyl methacrylate), useful for chemical amplified resist for semiconductor device, is easily prepared in high yield.

IT **209982-55-8P**
RL: DEV (Device component use); **IMF (Industrial manufacture)**; **SPN (Synthetic preparation)**; TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(preparation of tertiary alc. ester for resist for semiconductor device)

RN 209982-55-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-butyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

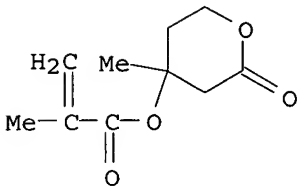
CM 1

CRN 209982-54-7
CMF C18 H28 O2

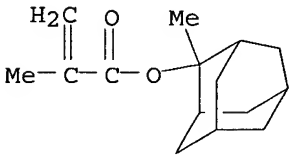


CM 2

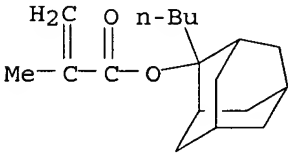
CRN 177080-66-9
CMF C10 H14 O4



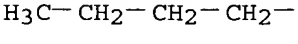
IT **177080-67-0P 209982-54-7P**
RL: **IMF (Industrial manufacture)**; RCT (Reactant); **SPN (Synthetic preparation)**; **PREP (Preparation)**; RACT (Reactant or reagent)
(preparation of tertiary alc. ester for resist for semiconductor device)
RN 177080-67-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)



RN 209982-54-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-butyltricyclo[3.3.1.13,7]dec-2-yl ester (9CI) (CA INDEX NAME)

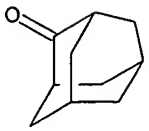


IT **109-72-8**, Butyllithium, reactions **700-58-3**, 2-Adamantanone **917-54-4**, Methyllithium
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(preparation of tertiary alc. ester for resist for semiconductor device)
RN 109-72-8 HCAPLUS
CN Lithium, butyl- (8CI, 9CI) (CA INDEX NAME)



RN 700-58-3 HCAPLUS

CN Tricyclo[3.3.1.13,7]decanone (9CI) (CA INDEX NAME)



RN 917-54-4 HCAPLUS
CN Lithium, methyl- (6CI, 8CI, 9CI) (CA INDEX NAME)

H_3C-Li